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**Kinsley Exploration Project
Pilot Gold (USA) Inc.**

ENVIRONMENTAL ASSESSMENT

BLM Case File Number NVN-091528



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LIST OF ACRONYMS & ABBREVIATIONS

AML	Appropriate Management Level
AMSL	Above Mean Sea Level
ATV	All-Terrain Vehicle
AUM	Animal Unit Month
BLM	Bureau of Land Management
BMP	Best Management Practice
BMRR	Bureau of Mining Regulation and Reclamation
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
CO₂	Carbon Dioxide
°F	Degrees Fahrenheit
EA	Environmental Assessment
EPA	Environmental Protection Agency
EPM	Environmental Protection Measure
ESA	Endangered Species Act

FAA	Federal Aviation Administration
FLPMA	Federal Land Policy and Management Act of 1976
GHG	Greenhouse Gas
HMA	Herd Management Area
lbs/acre	Pounds Per Acre
LR2000	Land and Mineral Legacy Rehost 2000 System
MBTA	Migratory Bird Treaty Act
mph	Miles Per Hour
MSHA	Mining Safety and Health Administration
MOU	Memorandum of Understanding
NAC	Nevada Administrative Code
NAGPRA	Native American Graves Protection and Repatriation Act
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
NRS	Nevada Revised Statute
NVPIF	Nevada Partners in Flight
OHV	Off-Highway Vehicle
PIF	Partners in Flight
Pilot Gold	Pilot Gold (USA) Inc.
Plan	Plan of Operations
PLS	Pure Live Seed
project	Kinsley Exploration Project
RFFA	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
ROW	Right-of-Way
SAD	Surface Area Disturbance
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WNV	West Nile Virus

**KINSLEY EXPLORATION PROJECT
ENVIRONMENTAL ASSESSMENT
PILOT GOLD (USA) INC.**

1.0 INTRODUCTION

The Kinsley Exploration Project (project) is a mineral exploration project located approximately 87 miles southeast of Elko, Nevada, and approximately 52 miles south of West Wendover, Nevada, in the southeastern portion of Elko County, on public lands administered by the Bureau of Land Management (BLM) Elko District Office, Wells Field Office (Figure 1). The project encompasses approximately 2,840 acres and spans the Kinsley Mountains, which are situated on a northeastern spur of the Antelope Range and are bound by Kinsley Draw to the west and by Antelope Valley to the east. Elevations in the project area range from 6,200 feet above mean sea level (AMSL) to 7,725 feet AMSL. From West Wendover, the project can be reached by traveling south approximately 37 miles on U.S. Highway 93-Alternate and southeast on Kinsley Mountain Mine Road for approximately 11 miles to the turnoff for the Kinsley Mountain Mine (Figure 1).

Pilot Gold (USA) Inc. (Pilot Gold) is conducting mineral exploration under a Notice NVN-090386, which authorizes up to 4.97 acres of surface disturbance. Additionally, Pilot Gold is extracting gravel for road maintenance (Mineral Material Sale NVN-091007) at a gravel pit approximately 1.79 acres in size. The locations of Notice-level activities as well as the gravel pit are shown on Figure 2. The total surface disturbance associated with these authorized activities totals approximately 6.76 acres. Pilot Gold proposes to expand the authorized activities to include an additional 63.93 acres of surface disturbance, for a total of 70.69 acres of project-related surface disturbance. Therefore, in accordance with 43 Code of Federal Regulations (CFR) 3809 and Nevada Administrative Code (NAC) 519A, Pilot Gold submitted a Plan of Operations NVN-091528/Nevada Reclamation Permit No. ____ (Plan) on June 7, 2012, to the BLM and the Nevada Division of Environmental Protection (NDEP) Bureau of Mining Regulation and Reclamation (BMRR). On October 2, 2012, the Plan was deemed complete by the BLM in accordance with 43 CFR 3809.401. Project-related activities would include exploration drilling, a water production well, and construction of roads, drill pads, and sumps.

The water production well and road maintenance for ingress and egress to the project area require a Standard Form 299 Application for Transportation and Utility Systems and Facilities on Federal Lands and a Rights-of-Way grants (ROWs). Pilot Gold submitted the ROW Grant Application to the BLM on November 14, 2012, for 18.3 miles of access road (NVN-091619) and for three well sites (NVN-091618) totaling approximately 0.23 acre of disturbance each.

Pilot Gold applied for water right appropriations from the Nevada State Water Engineer on September 27, 2012, for three wells, numbers 82145 (Well Site 1), 82146 (Well Site 2), and 82147 (Well Site 3).

1.1 PROJECT AREA

The project is located in parts or all of Sections 1 and 12, Township 26 North (T26N), Range 67 East (R67E), Sections 5, 6, 7, and 8, T26N, R68E, Section 36, T27N, R67E, and Sections 17, 31, 32, and 33, T27N, R68E, Mount Diablo Base and Meridian, Elko County, Nevada (Figure 2).

The project area includes the area of proposed exploration drilling, the gravel pit, and three water well sites. Although the ROW is considered part of the project, the 18.3 miles of access roads are not considered part of the project area (Figure 1).

1.2 PURPOSE AND NEED FOR ACTION

The purpose of the Proposed Action is to provide Pilot Gold the opportunity to conduct mineral exploration activities necessary to verify mineral resources and establish existing conditions. The BLM will decide whether to permit Pilot Gold's Kinsley Exploration Project as submitted or modified based on the impact analysis and associated mitigation as identified in this Environmental Assessment (EA).

The need for action is established by the BLM's responsibility under its 2008 Energy and Mineral Policy, the Federal Land Policy and Management Act of 1976 (FLPMA), and BLM Surface Management Regulations at 43 CFR 3809, to respond to an exploration Plan and to take any action necessary to prevent unnecessary or undue degradation of the lands.

1.3 LAND USE PLAN CONFORMANCE STATEMENT

The Proposed Action, as described in Chapter 2, is in conformance with the Wells Resource Management Plan (RMP) Record of Decision (BLM, 1985). The decision states "the public lands would be managed in a manner which recognizes the Nation's needs for domestic sources of minerals."

1.4 RELATIONSHIP TO OTHER LAWS, POLICIES, AND PLANS

The Proposed Action is further consistent with other federal, state, and local laws, regulations, and plans to the maximum extent possible. For the purpose and need statement, this includes FLPMA, BLM's 43 CFR 3809 surface management regulations, and State of Nevada mining statutes and regulations.

The surface management regulations recognize that the BLM is required to comply with the National Environmental Policy Act of 1969 (NEPA) through preparation of an environmental

document, in this case an EA, which analyzes the potential impacts of the Proposed Action and any consultation required under other laws including the National Historic Preservation Act of 1966 (NHPA) and the Endangered Species Act (ESA).

1.5 SCOPING, PUBLIC INVOLVEMENT, AND ISSUES

Approximately 48 individual comments were received during the scoping process; six of these comments were in reference to a mine operation and were not considered relevant to the Proposed Action. Numerous comments included the same general content and these comments were combined into an issue of common concern. The following issues were considered in the resource analysis and development of environmental mitigation measures:

- Ground-disturbing activities have the potential to increase invasive and noxious weeds, including halogeton;
- Tracking of mud and debris on vehicle tires can cause the spread of weeds, and affect water quality;
- Traffic safety issues need to be considered for ingress and egress at the intersection of U.S. Highway 93-Alternative and Kinsley Mountain Mine Road;
- New water wells and water use for dust control will require approval from the Nevada Division of Water Resources (NDWR);
- All wells and boreholes need to be plugged and abandoned in accordance with Nevada Revised Statute (NRS) 534;
- Soil erosion and sedimentation, and alteration of the natural drainage has the potential to affect surface water quality;
- Extraction of groundwater may affect springs and groundwater aquifers;
- Exploration activities may have the potential to affect golden eagle and ferruginous hawk nests, fragment mule deer winter range, and affect wildlife and wild horse migration corridors;
- Disturbed areas need to be reclaimed to provide suitable habitat for wildlife and wild horses;
- Increased traffic can cause animal mortality or injury from vehicle collisions; and
- Data is needed to determine wild horse use of the project area, wild horse census, winter-spring-summer habitat, current water source, availability and use.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

Ground disturbance activities (Section 2.2) include the following: maintenance of existing access roads; construction of overland travel routes, new roads, and drill sites; installing a water production well for project activities; and extracting additional gravel for road maintenance. ROWs would be obtained for the water well(s) and road maintenance. Water right appropriations would be obtained from the State Water Engineer. Project activities would be implemented using the appropriate Best Management Practices (BMPs) established by the NDEP and the Nevada Division of Conservation Districts (1994) Handbook of Best Management Practices, adopted by the State Environmental Commission December 7, 1994 (NDCD, 1994).

2.2 EXISTING AND PROPOSED EXPLORATION ACTIVITIES

Pilot Gold's authorized exploration activities under the Notice include overland travel, road construction including waterbars, drill pad and sump construction, and exploration drilling. Additionally, Pilot Gold is extracting gravel to armor Kinsley Draw Road associated with the Notice. An equipment staging area occurs in the project area on existing disturbance from the previous mine footprint. Water for authorized activities has been obtained from Chin Creek Reservoir located to the south of the project area. Authorized exploration activities were primarily located on areas that were previously disturbed from the former mine to minimize impacts. Authorized surface disturbance on public land is approximately 6.76 acres.

Proposed exploration activities include construction of additional drill pads, sumps, and constructed road, as well as surface disturbance from water wells and gravel extraction. Proposed exploration activities including drill pads, sumps, and constructed road would result in approximately 55.03 additional acres of surface disturbance. Proposed surface disturbance for the well sites and gravel pit expansion would occur on approximately 8.9 acres. Total proposed surface disturbance is approximately 63.93 acres. Additionally, a ROW grant for maintenance of 18.3 miles of access road to the project has been submitted to the BLM for approval. Road maintenance is proposed within the footprint of existing disturbance within the ROW and would not require new surface disturbance. The project's total proposed disturbance of 70.69 acres on public land would include the existing (6.76 acres) and proposed surface disturbance (63.93 acres). The project area, well sites, gravel pit, access routes, and land status are shown on Figure 2. Existing surface disturbance in the project area is shown on Figure 3. The general locations of the proposed project-related activities are shown on Figures 4 and 5. Table 1 depicts the total authorized and proposed surface disturbance acreage by component for the project.

Table 1 Existing and Proposed Surface Disturbance Associated with the Project

Project Component	Land Status	Approved Existing Disturbance (2012 Notice) (acres)	Proposed Disturbance (acres)	Total (acres)
Constructed Road	Public	1.75	40.03	41.78
Overland Travel	Public	0.33	0.00	0.33
Constructed Drill Sites and Sumps	Public	2.89	15.00	17.89
Well Sites	Public	0.00	0.69	0.69
Gravel Pit Expansion	Public	1.79	8.21	10.00
Subtotal		6.76	63.93	70.69

The following sections describe general operating procedures, construction techniques, and equipment Pilot Gold anticipates using.

2.2.1 Ancillary Facilities

Pilot Gold anticipates establishing staging areas on flat terrain within the project area. A portable toilet facility would be placed at the staging area, as well as near active drill rigs. Equipment and facilities at the staging areas could include temporary trailers and storage containers. One of the temporary trailers would be used as a drill logging facility. A portable gasoline generator would be used to supply electricity to this facility.

2.2.2 Drill Sites and Drilling Procedures

Pilot Gold proposes to drill approximately 171 drill sites over a period of five years. The approximate locations of the drill sites are illustrated on Figure 4; however, the exact locations of the drill sites may be adjusted as drilling results become available. Pilot Gold would provide updated reclamation costs to the BLM and BMRR as necessary. Drill sites would have working areas that measure approximately 30 feet wide by 70 feet long. Drill sites would be the minimum size necessary for safe access and to provide a safe working area for equipment and crews. Pilot Gold plans to construct drill sites. Sumps would be installed at each drill site to contain cuttings and manage drilling fluids. Sumps are included within the disturbance of each drill site and would measure approximately 30 feet wide by 14 feet long and 6.75 feet deep. Sumps would be designed to be zero-discharge facilities. Sumps would be constructed on the cut side of the slope instead of in the fill material. Bentonite and/or plastic would be added as a liner to prevent leakage. As a safety measure, sumps would be engineered to have easy egress (i.e., slopes would not exceed 10%) or fencing to prohibit wildlife and livestock access. Soil capable of serving as a growth media would be salvaged and placed uphill of the cut slope so that it will not be mixed with runoff from cut material and can be brought back over the top of the drill pads after construction to restore natural contour.

Exploration drilling would be completed by utilizing track- or truck-mounted reverse circulation or core drill rigs and support equipment. Up to three drill rigs would operate in the project area at a given time. Drill holes would be both angled and vertical with drill depths of up to approximately 1,500 feet. Drill holes would range in diameter from three to six inches. If groundwater is encountered, the hole would be plugged pursuant to NAC 534.420. Up to three drill holes may remain open at any one time. Cuttings not bagged and removed during sample collection could be used as a source of backfill and placed back down the borehole; however, they are usually collected and contained in the sump. Generally, all drill holes would be plugged prior to the drill rig moving from the drill site in accordance with NRS 534, NAC 534.4369, and NAC 534.4371. If casing is set in a borehole, the borehole would be treated as a well and plugged pursuant to NRS 534.420, or the casing would be completely removed from the borehole when it is plugged pursuant to Section 31. The upper portion of the borehole may be permanently cased if the annulus is completely sealed from the casing shoe to surface pursuant to NAC 534.380.

2.2.3 Road Construction and Access

Main Access Roads

The project area would be accessed from West Wendover via existing roads (Figure 2). The primary access to the project area would be along the Kinsley Mountain Mine Road from its origin with U.S. Highway 93-Alternate located in Section 24, T28N, R67E, to its destination at the junction with the Mine Haul Road located in Section 4, T26N, R68E, which is a distance of 11.04 miles. Pilot Gold would access the eastern side of the project from Candland Canyon Road and the Mine Haul Road built in the 1990s. Candland Canyon Road is approximately 1,500 feet north of the Mine Haul Road. These two roads would originate at the junction with Kinsley Mountain Mine Road located in Section 4, T26N, R68E, and would connect with the east boundary of the project located in Section 5, T26N, R68E. Pilot Gold would access the western side of their property along the Kinsley Draw Road. This road would originate at the junction with Kinsley Mountain Mine Road located in Section 17, T27N, R68E, and would end at the north boundary of the project located in Section 36 T27N, R 67E, which is a distance of 5.44 miles. During Notice-level activities, this road was used to access drill sites on the west side of the property and was partially armored with gravel. The legal description of these requested access road ROW grants is shown in Table 2.

Table 2 Legal Descriptions for Proposed ROW Grant Access Roads

Road Name	Origin	Destination	Legal Description	Length (miles)	Width (feet)	Acres
Kinsley Mountain Mine Road	Junction with U.S. Highway 93-Alternate. Section 24, T28N, R67E.	Junction with Mine Haul Road. Section 4, T26N, R68E.	Section 24, S1/2N1/2, NW1/4SE1/4, T28N, R67E; Section 19, E1/2SW1/4, S1/2SE1/4, T28N, R68E; Section 19, Lot 7, T28N, R68E; Section 29, E1/2W1/2, NW1/4NW1/4, T28N, R68E; Section 30, T28N, R68E, NE1/4NE1/4; Section 32, W1/2NE1/4, W1/2SE1/4, T28N, R68E; Section 5, E1/2, T27N, R68E; Section 8, E1/2E1/2, SW1/4SE1/4, T27N, R68E; Section 17, W1/2NE1/4, T27N, R68E; Section 17, W1/2SE1/4, SE1/4SE1/4, T27N, R68E; Section 20, E1/2NE1/4, NE1/4SE1/4, T27N, R68E; Section 21, SW1/4NW1/4, W1/2SW1/4, T27N, R68E; Section 28, W1/2W1/2, T27N, R68E; Section 32, E1/2NE1/4, T27N, R68E; Section 33, W1/2W1/2, T27N, R68E; Section 4, NE1/4, E1/2SW1/4, T26N, R68E.	11.04	30	40.12
Candland Canyon Road	Junction with Kinsley Mountain Mine Road. Section 4, T26N, R68E.	East boundary of project. Section 5, T26N, R68E.	Section 4, S1/2NW1/4, T26N, R68E; Section 5, SE1/4NE1/4, N1/2SE1/4, T26N, R68E; Section 5, NE1/4SW1/4, T26N, R68E.	0.89	15	1.63
Mine Haul Road	Junction with Kinsley Mountain Mine Road Section 4, T26N, R68E.	East boundary of project. Section 5, T26N, R68E.	Section 4, S1/2SW1/4, T26N, R68E; Section 5, S1/2SE1/4, SE1/4SW1/4, T26N, R68E.	0.91	15	1.65
Kinsley Draw Road	Junction with Kinsley Mountain Mine Road. Section 17, T27N, R68E.	North boundary of project. Section 36, T27N, R67E.	Section 17, NW1/4SE1/4, NW1/4NW1/4, E1/2NW1/4, T26N, R68E; Section 8, W1/2SW1/4, SE1/4SW1/4; Section 7, T26N, R68E, N1/2SE1/4, SW1/4SE1/4, SE1/4SW1/4, T26N, R68E; Section 18, NE1/4NW1/4, Lots 5 and 6, T26N, R68E; Section 13, E1/2SE1/4, T26N, R67E; Section 24, NE1/4NE1/4, W1/2NE1/4, W1/2SE1/4, T26N, R67E; Section 25, NW1/4NE1/4, E1/2NW1/4, E1/2SW1/4, SW1/4SE1/4, T26N, R67E; Section 36, W1/2NE1/4, T26N, R67E.	5.44	15	9.88
Total				18.28	N/A	53.28

Rights-of-Way

Approximately 18.3 miles of access roads would require BLM's review and approval of a ROW grant (Figure 2). These roads are identified as portions of the Kinsley Mountain Mine Road, the Mine Haul Road, Candland Canyon Road, and Kinsley Draw Road. Specific widths and lengths of each road requiring the ROW include the following:

- The Kinsley Mountain Mine Road, from its junction with U.S. Highway 93-Alternate to its junction with the Mine Haul Road, would require a 30-foot ROW grant for a distance of 58,257 feet (11.04 miles) covering approximately 40.12 acres;
- The Mine Haul Road would require a 15-foot ROW grant between the Kinsley Mountain Mine Road and the eastern project boundary for a distance of 4,786 feet (0.91 mile) covering approximately 1.65 acres;
- The Candland Canyon Road extends from the Kinsley Mountain Mine Road to the eastern project boundary and would require a 15-foot ROW grant for a distance of 4,723 feet (0.89 mile) covering approximately 1.63 acres. During Notice-level activities, this road was used to access several drill sites; and
- The Kinsley Draw Road extends from the Kinsley Mountain Mine Road to the west side of the Kinsley Mountains to the project boundary and would require a 15-foot ROW grant for a distance of 28,688 feet (5.44 miles) covering approximately 9.88 acres. During Notice-level activities, this road was used to access drill sites on the west side of the project area, and was partially armored with gravel from the authorized mineral material sale.

The Nevada Department of Transportation (NDOT) has a 30-foot ROW grant, NVN-011512, for access along the Kinsley Mountain Mine Road from the junction at U.S. Highway 93-Alternate to their mineral material site located in Section 32, T28N, R68E. Hill Air Force Base also has a 15-foot BLM ROW grant, NVN-087465, from the junction with U.S. Highway 93-Alternate to their communications site located in Section 18, T27N, R69E. This access route crosses Kinsley Mountain Mine Road and Kinsley Draw Road in Section 17, T27N, R68E. As per Title V of FLPMA as well as in 43 CFR 2800, the BLM reserves the right to issue ROW grants on, over, or adjacent to other existing ROW grants.

Exploration Roads

Overland travel would have a six-foot running width and roads would be built with a 12-foot running surface including a safety berm where required. Road construction would occur in areas with varying topography. Balanced cut and fill construction would be used to the extent practicable to minimize the exposed cut slopes and the volume of fill material. Since the depth of cut would be kept to a minimum, growth media removed during construction would be stockpiled to the uphill side of the drill pad to be used during reclamation.

Road construction within drainages would be avoided whenever possible and the deposition of materials would not occur within the active channel. When drainages must be crossed with a road, BMPs established by the NDCD (1994) would be followed to minimize the surface disturbance and erosion potential. If a culvert is necessary, the placement and size would be approved by BLM and NDEP.

Exploration roads that require earth-moving would be constructed using typical construction practices for temporary mineral exploration roads to minimize surface disturbance, erosion, and visual contrast, as well as to facilitate reclamation. Road construction would be implemented using a dozer, excavator, or equivalent equipment. An excavator would be used on roads on slopes greater than 30 percent. Road grades would be no steeper than 10 percent, except for short drill spurs, in order to be consistent with the BLM roads manual. Pilot Gold or its contractors would utilize a road grader to maintain surface road integrity and drainage. Emissions of fugitive dust from roads would be minimized by the application of water from a water truck as a method of dust control. Magnesium chloride may be used for road stabilization and dust control during exploration activities.

Proposed surface disturbance associated with exploration roads would equal approximately 40.03 acres (Table 1).

Road Maintenance

Portions of the main access roads outside the project would require maintenance to allow safe passage of project-related equipment. Maintenance could include smoothing ruts, filling holes with fill material, grading, and placing berms as warranted and required by the Mine Safety and Health Administration (MSHA). Pilot Gold may need to armor portions of the access roads to control erosion and dust. Maintenance activities would be limited to the footprint of the existing road and would not increase the surface disturbance. The main access routes requiring maintenance are shown on Figure 2.

Maintenance of the exploration roads could include minor seasonal regrading and reestablishment of waterbars as necessary, as outlined in the BLM Manual 9113, smoothing rutted surfaces and potholes, and potential graveling to reduce erosion and formation of dust. Some of the exploration roads may require gravel to minimize excess disturbance and control dust. Gravel would be obtained from the mineral material site described in Section 2.2.4. All minor maintenance activities would be consistent with applicable BLM-approved BMPs. Erosion control would be monitored in the spring and fall.

2.2.4 Gravel Pit

In March 2012, Pilot Gold purchased 1,000 cubic yards of gravel from the BLM (Mineral Material Sale NVN-091007) from an existing gravel pit located in Section 17, T27N, R68E (Figure 2). Operating under the Notice, Pilot Gold armored BLM-identified portions of the Kinsley Draw Road using the purchased gravel. Armoring the access roads protects air and water quality and prevents undue degradation to the road. Approximately 1.79 acres of previously disturbed area is associated with the existing gravel pit. As part of the project, 8.21 acres of additional surface disturbance is proposed for use in road maintenance and would increase the size of the gravel pit to a total of 10 acres (Table 1). The gravel site is located on unpatented lode mining claims, owned by Pilot Gold. These claims are not contiguous with the claim block in the project area (Figure 3).

2.2.5 Water Well

Pilot Gold is currently applying for a water rights appropriation from NDWR for three water well sites (Figures 2 and 4). Pilot Gold would drill stratigraphic holes and perform air lift tests to determine water production potential. Once water production potential is discovered, one well site would likely serve the water needs for the project. However, there is a possibility that more than one well site would be needed over the life of the project. Pilot Gold has applied for ROW grants for all three water well sites in the project area.

Each well site would be 100 feet by 100 feet (0.23 acre), delineated with t-posts and smooth wire fence, and allow for truck access and turnaround. The facilities would include a well pump, a diesel generator, a small wellhead protection building, and a raised 12,000-gallon water tank. The ground would be armored with six to eight inches of gravel to maintain air, water, and soil quality. With protracted use, more gravel would be brought in to maintain the surface. The water tank would be installed on a stand that allows the truck to pass underneath and fill up. The tank and stand together would be 26 feet high, 40 feet long, and nine feet wide. A pump would be installed down the well that provides water to the tank. If necessary, a small shed (eight feet, by eight feet, by ten feet) would be constructed to protect the well head from the elements or vandalism. A diesel generator would be temporarily installed to provide power to the well pump. Generator fuel would be supplied by drilling contractor as needed. The generator would be placed in a lined containment pit and would incorporate spill prevention measures. Total well site disturbance is estimated to be 0.69 acre for all three well sites.

2.2.6 Equipment

Project personnel would access the project area in four-wheel drive vehicles. Over the 10-year life of the project, drilling would be conducted with up to two reverse circulation drill rigs and one core drill rig or equivalent. The following equipment could be used over the life of the project:

- Two reverse circulation truck-mounted, track-mounted, or articulated buggy-mounted rotary drill rigs;
- One truck-mounted, track-mounted, or articulated buggy-mounted core rig;
- Up to three 2,000- to 4,000-gallon water trucks (one per drill rig);
- One all-terrain vehicle (ATV);
- Up to three pipe trucks (one per drill rig);
- Up to two booster trucks;
- One excavator with one hydraulic hammer or air-track drilling and blasting;
- Up to two auxiliary air compressors (one for each of the reverse circulation drill rigs); and
- Two or more portable light plant/generators.

Generally, a Cat D7 or D8H bulldozer or equivalent would be used to construct the roads and drill sites where needed. Roads and drill sites would be reclaimed using a bulldozer and/or a Cat 325 L or Cat 350 front-end excavator or equivalent.

2.2.7 Water Use

Only water or non-toxic drilling fluids may be utilized, as necessary, during drilling. Pilot Gold would obtain water from one or more of the three water wells illustrated on Figure 4. Water for authorized activities is obtained from Chin Creek Reservoir located to the south of the project area. Pilot Gold has applied for and has received a temporary change of use and would use water from Chin Creek to drill the water well for the project. Pilot Gold is in the process of obtaining the applicable permits and would provide copies of the documentation to the BLM and BMRR. Pilot Gold has applied for a water rights appropriation from NDWR for three water well sites, and has also applied for a waiver for temporary use of groundwater for mineral exploration. Pilot Gold may, in future phases, acquire water from an alternate source. The BLM and the BMRR would be notified of the source and provided with copies of all applicable permits. Pilot Gold anticipates using an average of 25,000 gallons of water per day, with a maximum use of 60,000 gallons per day.

2.2.8 Work Force

Pilot Gold would follow standard drilling procedures and require a company representative to be on-site or on-call throughout drilling activities. The company representative would monitor and coordinate the layout and construction of each drill site, the setup of the drill rig, drilling

progress, demobilization, and cleanup of the drill site. A company geologist would also coordinate drilling activities, log each hole according to the geologic features encountered, determine the maximum depth of each hole, and advise the drill operator as needed.

Standard drill rig crews would consist of a drill operator and one or two helpers. The helpers normally remove and box the recovered core samples, the cuttings from reverse circulation rigs, mix drilling fluids in the portable mud tank, operate the water truck, assist with drilling operations, and conduct maintenance as necessary.

Up to a total of 15 individuals (three contract personnel per drill rig crew, one Pilot Gold-employed geologist, and one company representative per drill rig for three drill rigs) could be in the project area at the same time. Drilling activities would generally be limited to daylight hours; however, may continue up to 24 hours per day for some drill rigs.

2.2.9 Surface Water and Groundwater Control

BMPs for sediment control would be utilized during construction, operation, and reclamation to minimize sedimentation from disturbed areas. In order to facilitate drainage and prevent erosion, waterbars would be constructed on all bladed roads, as needed, at BLM-recommended spacing.

Sediment control structures could include and would not be limited to, fabric or straw bale (certified weed-free) filter fences, siltation or filter berms, mud pits, and downgradient drainage channels in order to prevent unnecessary or undue degradation to the environment. Sediment traps, constructed as necessary on drill pads, would be used to settle drill cuttings and prevent their release.

There are no surface waters (e.g., spring, seeps, riparian areas, and perennial drainages) within the project area, nor within or near any project components outside the project area; therefore, no construction or drilling activities of any kind would take place within or near surface water.

2.2.10 Surface Occupancy

Under 43 CFR 3715.0-5, occupancy means full- or part-time residence on the public lands. It also means activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker for the purpose of monitoring activities. Residence or structures include and are not limited to, barriers to access, fences, tents, motor homes, trailers, cabins, houses, buildings, and storage of equipment or supplies. Pilot Gold plans to utilize up to two temporary portable trailers as office space and storage containers to safely store drilling supplies. A night watchman may be employed in the staging area. Additionally, Pilot Gold would utilize a water well, or more than one water well, that may be housed with a small shed. In order to occupy the public

lands under the mining laws for more than 14 calendar days in any 90-day period within a 25-mile radius of the initially occupied site, Pilot Gold would submit a 3715 filing with BLM as required by 43 CFR 3715.3-1, to determine if the proposed occupancy can be authorized under the subject regulations.

2.2.11 Solid and Hazardous Materials

All refuse generated by the Proposed Action would be transported off-site and disposed of at an authorized landfill facility, consistent with applicable regulations. No refuse would be disposed of on-site. Water or non-toxic drilling fluids or products, including Abandonite, Alcomer 120L, bentonite, EZ-mud, Poly-Plus, and Super Plug, would be utilized as necessary during drilling and would be stored within the project area.

Hazardous materials utilized within the project area would include diesel fuel, gasoline, and lubricating grease. Additionally, diesel fuel would be used outside of the project area to operate the well site(s). Approximately 500 gallons of diesel fuel would be stored in fuel delivery systems on vehicles and drill rigs. It is anticipated that a 4,000-gallon diesel fuel storage tank would be utilized at the project. The entire diesel fuel tank area would employ spill containment measures. Approximately 100 gallons of gasoline would be stored in fuel delivery systems for light vehicles. Approximately 100 pounds of lubricating grease would be stored on the drill rigs or transported by drill trucks. All containers of hazardous substances would be labeled and handled in accordance with NDOT, NDEP, Environmental Protection Agency (EPA), and MSHA. Material Safety Data Sheets would be kept on-site for all hazardous materials.

In the event hazardous or regulated materials, such as diesel fuel, were spilled, measures would be taken to control the spill, and the BLM, NDEP, and the Emergency Response Hotline would be notified, as required. In addition, a spill kit would be kept on-site. If any oil, hazardous material, or chemicals are spilled during operations, they would be cleaned up immediately. After cleanup, the oil, noxious fluids, or chemicals, and any contaminated material would be removed from the site and disposed of at an approved disposal facility.

Self-contained, portable, chemical toilets would be used for human waste and all human waste would be hauled off-site.

2.2.12 Reclamation

Reclamation would be completed to the standards described in 43 CFR 3809.420 and NAC 519A. Reclamation would meet the reclamation objectives as outlined in the United States Department of Interior Solid Minerals Reclamation Handbook #H-3042-1 (BLM, 1992), Surface Management of Mining Operations Handbook H-3809-1 (BLM, 1989), and revegetation success standards per BLM/NDEP *Revised Guidelines for Successful Mining and Exploration*

Revegetation (BLM, 1999). Existing roads would be utilized as much as possible, minimizing the need for road construction. All Pilot Gold drill sites, sumps, and road construction would be recontoured.

2.2.12.1 Schedule of Reclamation

The Proposed Action does not modify the previously proposed and authorized reclamation activities associated with the project. Reclamation activities would be conducted concurrently with exploration activities. Reclamation would begin within exploration areas considered inactive, without potential, or completed, at the earliest practicable time. Earthwork and revegetation activities are limited by the time of year during which they can be effectively implemented. Table 3 outlines the anticipated reclamation schedule on a quarterly basis. Site conditions or yearly climatic variations may require that this schedule be modified to achieve revegetation success. Reclamation activities would be coordinated with BLM and BMRR when necessary. The proposed reclamation is expected to have a duration of up to four years from the time of commencement of final reclamation and would be initiated within one year after the completion of exploration activities. Revegetation is anticipated to take four years after the time of seeding to achieve success.

Table 3 Anticipated Exploration Reclamation Schedule

Techniques	Quarter				Year(s)
	1st Jan-Mar	2nd Apr-Jun	3rd Jul-Sep	4th Oct-Dec	
Regrading		X	X	X	Within one year of project completion
Seeding				X	Within one year of project completion
Monitoring		X	X		Four years beyond regrading and seeding

2.2.12.2 Drill Hole Plugging

Except for the reverse circulation rotary holes that may be drilled as pre-collars for some of the core holes as discussed in Section 2.2.2, all drill holes (i.e., boreholes) would be plugged prior to the drill rig moving from the drill site in accordance with NRS 534 and NAC 534.4369 and NAC 534.4371. If any drill hole encounters artesian conditions, the drill hole would be contained pursuant to NRS 534.060 and NAC 534.378 and would be sealed by the method described in subsection 2 of NAC 534.4371. If a casing is set in a drill hole, either the drill hole must be completed as a well and plugged pursuant to NAC 534.420 or the casing would be completely removed from the drill hole and then the hole would be plugged according to NAC 534.4369 and NAC 534.4371.

2.2.12.3 Regrading and Reshaping

Regrading and reshaping of all constructed drill sites and exploration roads would be completed to approximate the original topography. Fill material, enhanced with growth media, would be

pulled onto the roadbeds, and drill/well sites to fill the cuts and restore the slope to natural contours. Topsoil removed and stockpiled during the construction of the project would be replaced on the cleared area and regraded. Sumps and trenches would be backfilled with the stockpiled spoil pile. Reclamation work would be completed with an excavator and bulldozer as necessary.

Should any drainages be disturbed, they would be reshaped to approach the pre-construction contours. Pilot Gold would utilize BMPs to reduce erosion and sedimentation during regrading and reshaping drainages. The resulting channels would be of the same capacity as up and downstream reaches and would be made non-erosive by use of surface stabilization techniques (riprap) where necessary, and ultimately revegetated. Following completion of earthwork, all disturbed areas would be broadcast seeded. No major work in drainages would be conducted if water is present or unless the BLM is consulted.

2.2.12.4 Revegetation

Generally, seedbed preparation and seeding would take place in the fall after regrading of disturbed areas. All reclaimed areas would be scarified and then broadcast seeded with an electric broadcast seeder mounted on an ATV on roads with gentle slopes and with a hand-held broadcast seeder on severe slopes. Broadcast seed would be covered by harrowing, raking, or other site-specific appropriate methods as necessary to provide seed cover and enhance germination. Reclaimed surfaces would be left in a textured or rough condition (e.g., small humps, pits) to enhance moisture retention and revegetative success while minimizing erosion potential. Pilot Gold would consult with BLM prior to seeding to determine what may be necessary to prevent soil erosion and accelerate vegetation establishment on steep slopes with large areas of disturbance. The BLM may require Pilot Gold to use soil amendments and/or install physical stabilization controls such as straw mat/geotextile to ensure that vegetation establishes as quickly as possible, and that excessive erosion does not occur prior to vegetation establishment.

The seed list, provided by the BLM (Table 4), is based on known soil and climatic conditions and was selected to establish a plant community that would support the post-exploration land use. The mix is designed to provide species that can exist in the environment of northeastern Nevada, are proven species for revegetation, or are native species found in the plant communities prior to disturbance. Native species would be preferred in the reclamation seed mix. Revegetation transect surveys have been performed in the project area in 2012 to evaluate the reclamation completed by the BLM from the year 2000 through 2010. The results of the surveys performed in the reclamation area to characterize the reclaimed vegetation communities are included in the Revegetation Survey Report in Appendix A. Three seed mixes have been chosen by BLM based on the successful reclamation in the project area (Tables 4, 5, and 6). Broadcast

seeding would be at a rate of approximately one to four pounds of pure live seed per acre. Changes or adjustments to the reclamation plant list or application rate would be completed in consultation with and approval by the BLM and BMRR.

Table 4 Revegetation Seed Mix for Transects 1 and 2

Common Name	Scientific Name	Application Rate (PLS lbs/acre ¹)
Indian ricegrass	<i>Achnatherum hymenoides</i>	6.0
Russian wildrye	<i>Psathyrostachys juncea</i>	4.0
Sandberg bluegrass	<i>Poa secunda</i>	2.0
Palmer's penstemon	<i>Penstemon palmeri</i>	1.0
Western yarrow	<i>Achillea millefolium</i> var. <i>occidentalis</i>	0.10
Blue flax	<i>Linum perenne</i>	1.0
White-stemmed rabbitbrush	<i>Ericameria nauseosa</i>	2.0
Fourwing saltbush	<i>Atriplex canescens</i>	3.0

¹Pure Live Seed pounds per acre

Table 5 Revegetation Seed Mix for Transects 4 and 6

Common Name	Scientific Name	Application Rate (lbs/acre)
Indian ricegrass	<i>Achnatherum hymenoides</i>	6.0
Russian wildrye	<i>Psathyrostachys juncea</i>	4.0
Sandberg bluegrass	<i>Poa secunda</i>	2.0
Palmer's penstemon	<i>Penstemon palmeri</i>	1.0
Western yarrow	<i>Achillea millefolium</i> var. <i>occidentalis</i>	0.10
Blue flax	<i>Linum perenne</i>	1.0
White-stemmed rabbitbrush	<i>Ericameria nauseosa</i>	2.0
Fourwing saltbush	<i>Atriplex canescens</i>	3.0
Basin wildrye	<i>Leymus cinereus</i>	2.5

Table 6 Revegetation Seed Mix for Transects 3, 5, and 7

Common Name	Scientific Name	Application Rate (lbs/acre)
Indian ricegrass	<i>Achnatherum hymenoides</i>	6.0
Russian wildrye	<i>Psathyrostachys juncea</i>	4.0
Sandberg bluegrass	<i>Poa secunda</i>	2.0
Palmer's penstemon	<i>Penstemon palmeri</i>	1.0
Western yarrow	<i>Achillea millefolium</i> var. <i>occidentalis</i>	0.10
Blue flax	<i>Linum perenne</i>	1.0
White-stemmed rabbitbrush	<i>Ericameria nauseosa</i>	2.0
Fourwing saltbush	<i>Atriplex canescens</i>	3.0

Timing of revegetation activities is critically important to the overall success of the program. Seeding activities would be timed to take advantage of optimal climatic periods and would be coordinated with other reclamation activities. In general, earthwork and drainage control would be completed in the summer or early fall. Seedbed preparation would generally be completed in the fall, either concurrently with or immediately prior to seeding. Seeds would be sown in late fall to take advantage of winter and spring precipitation and optimum spring germination. Early spring seeding may be utilized for areas not seeded in the fall. In either case, seeding would not be done when the ground is frozen or snow-covered.

Revegetation test plots have been installed within the project area to test the initial success of reclamation and revegetation techniques and seeding. Revegetation transect survey data has been collected in coordination with the BLM to measure the success of the test plots.

2.2.12.5 Removal or Stabilization of Building, Structures, and Support Facilities

Temporary structures would potentially be utilized for office space and to store drilling supplies during the 10-year life of the project. As mentioned above, a small building to provide protection for the water well(s) would potentially be used. All equipment, temporary structures, and supplies would be removed following completion of the project. Other materials, including scrap, trash, and unusable equipment, would be removed on a daily or weekly basis and disposed of in accordance with federal and state regulations and laws.

2.2.13 Environmental Protection Measures

Pilot Gold commits to the following environmental protection measures (EPMs) to prevent unnecessary or undue degradation during construction, operation, and reclamation of the Proposed Action. The measures are derived from the general requirements established in the BLM's Surface Management Regulations at 43 CFR 3809 and BMRR mining reclamation regulations, as well as other water and air quality regulations.

Air Quality

Emissions of fugitive dust from disturbed surfaces would be minimized by utilizing appropriate control measures as outlined in the Surface Area Disturbance (SAD) permit prepared for the project. Surface application of water from a water truck is the current method of dust control during high wind conditions (greater than 25 miles per hour [mph]), as well as armoring the roads with gravel that go to bug dust. There is also the potential for the possible application of magnesium chloride to help maintain roads under extended use. By applying magnesium chloride it requires less frequent blading and rolling of the road and also greatly reduces fugitive dust emissions. BMPs will also be incorporated into the project to minimize impacts to air quality.

Cultural Resources

A finding of no adverse effects to historic properties for the project is contingent upon adherence to the following protection measures. For purposes of this EA, a historic property is defined as any cultural resource that qualifies for listing on the National Register of Historic Places (NRHP) or which has not yet been evaluated for the NRHP. Since the entire project has been determined to constitute a single federal undertaking under the NHPA, these EPMs would apply to the entire 2,840-acre project area.

A 164-foot (50-meter) buffer zone would be established around identified historic properties within the project area to provide protection to the sites during construction and exploration. Historic properties and their buffer zones would be off limits to all ground-disturbing activities, including but not limited to driving, parking, grading/blading, excavation, equipment or supply storage, or any other activity that can break, damage, disturb or move archaeological deposits. Any such activities are prohibited unless authorized in writing by the BLM authorized officer.

Pilot Gold would not disturb, alter, injure, or destroy any scientifically important paleontological remains; or any historical or archaeological site, structure, building, object or artifact within the project area. Pilot Gold would be responsible for ensuring that its employees, contractors, or any others associated with the project do not collect artifacts, or damage or vandalize archaeological, historical or paleontological sites or the artifacts within them. Should damage to cultural resources occur within the above areas during the period of construction, operation, maintenance, or rehabilitation due to the unauthorized, inadvertent or negligent actions of Pilot Gold or any other project personnel, Pilot Gold would be responsible for costs of rehabilitation or mitigation. Individuals involved in illegal activities would be subject to penalties under the Archaeological Resources Protection Act (16 United States Code [U.S.C.] 470ii), the FLPMA (43 U.S.C. 1701), the Native American Graves Protection and Repatriation Act (NAGPRA) (16 U.S.C. 1170) and other applicable statutes.

Pilot Gold would provide training to ensure that all its personnel and all the personnel of its contractors and subcontractors are directed not to engage in the illegal collection of historic and prehistoric materials. Subsequent hires would also be required to be subject to similar training. Training would be in association with Pilot Gold's safety and or related job training and project orientation. Pilot Gold would cooperate with the BLM to ensure compliance with the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470) on Federal lands and with NRS 381 and 383 for private lands.

When previously unidentified cultural resources are discovered or an unanticipated impact situation occurs, all project-related activities within 328 feet (100 meters) of the discovery/impact will cease immediately and Pilot Gold or its authorized representative would

secure the location to prevent vandalism or other damage. Pursuant to 43 CFR §10.4(g), Pilot Gold would notify the BLM authorized officer, by telephone and with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR § 10.2), and any previously undocumented archaeological, historic, or paleontological sites. Activity at the location would be suspended until after the discovery has been evaluated, any necessary EPMs completed and the BLM authorized officer has issued a written Notice to Proceed. Human remains, funerary objects, sacred objects, or objects of cultural patrimony found on federal land would be handled according to the provisions of NAGPRA and its implementing regulations (43 CFR § 10). Human remains and funerary objects found on state or private land would be handled according to the provisions of NRS 383.150 to 383.190.

Forestry and Fire Management

All applicable state and federal fire laws and regulations would be complied with, and all reasonable measures would be taken to prevent and suppress fires in the project area.

Pilot Gold would minimize tree cutting during the summer months. Materials cut using hand thinning methods would be bucked into pieces no longer than three feet in length to speed up the drying process. Debris 12 inches in diameter or larger would be cut into lengths of 18 to 24 inches to increase the speed of the drying process on-site.

If cutting is completed in spring and early summer months (April through July) then debris larger than 12 inches in diameter and longer than three feet would need to be moved at least one-half-mile away from any pinyon-juniper stands during the summer months to minimize the attracting forest pests to adjacent stands.

Noxious Weeds and Invasive, Non-Native Species

Eradication measures would be implemented in coordination with the BLM if noxious weeds were found. All herbicide applications would utilize BLM-approved chemicals and surfactants, be made by licensed pesticide applicators, all state and federal laws, policies, and regulations would be followed, and Pesticide Application Records would be completed within 24 hours of application and submitted to the BLM within three weeks of application.

The revegetation portions of the reclamation bond would not be released until all noxious weed infestations are controlled.

As part of noxious weed monitoring, Pilot Gold would ensure that an annual noxious weed survey is conducted along existing access roads and all disturbed areas within the project area.

Noxious weeds would be controlled through implementation of preventive BMPs, which would include but are not be limited to the following: (a) any heavy equipment or passenger vehicles moving in to the project area from another project site would have wheel wells, wheels and tires, bumpers, undercarriage, etc., cleaned with high pressure water in town to remove any weed seeds prior to moving onto the site; (b) only certified weed-free seed would be used for reclamation seeding; and (c) all reclamation would be monitored for infestations of noxious weeds. Table 7 outlines the weed and invasive species control BMPs.

Table 7 Noxious Weed and Invasive, Non-Native Species Control Best Management Practices

Best Management Practice	Purpose
Equipment washing prior to moving onto project area	Reduces spread of invasive species into project area
Use certified weed-free seed for reclamation	Reduces introduction of invasive species into project area
Avoiding disturbance to known populations	Reduces spread of species into project area
Removal of populations in reclaimed areas	Manage spread of invasive species in disturbed areas to allow native vegetation to establish
Concurrent reclamation	Reduces the establishment of invasive species in disturbed areas
Monitoring of reclaimed areas	Identifies populations of invasive species in early stages

Drill sites and sumps would be reclaimed as soon as practicable after completion of logging and sampling.

In addition to the abovementioned EPMs, introduction of noxious weeds and invasive, non-native species would be minimized by implementation of a Noxious Weed Management Plan (Appendix B).

Access and Safety

BLM roads within the project area cannot be blocked or access precluded by the public.

Pilot Gold would notify BLM 30 days in advance of opening the reclaimed road near the mine workings in the southern portion of the project area, so that BLM can close the small, open and exposed historic mine workings identified in the area for public safety.

Public safety would be maintained throughout the life of the project. Pilot Gold is committed to a safety program that includes training for employees and contractors. This includes Pilot Gold's in-house safety manual that every employee with Pilot Gold is required to read. It is a very comprehensive manual that goes over in detail how to respond to nearly every conceivable emergency situation that may arise during the course of an exploration program and a copy is kept at the project. The safety program includes Safety Orientation Check-In that is required of all contractors and visitors to the project to read and sign (Appendix C). The Safety Orientation

Check-In includes discussion on driver safety, natural elements, operation safety, wildlife, communication, as well as other worker safety concerns. The safety program also includes Pilot Gold's Emergency Reference Sheet that is provided to all contractors and visitors to the project that lists the emergency contact numbers of first responders and the locations of the nearest hospitals, etc. in case of emergency. In addition, Pilot Gold conducts weekly safety meetings with every contractor working on-site. During that time, the project safety representative audits the contractor's activities and equipment. Each participant is required to sign a safety meeting sign-in sheet to attest to their attendance and understanding of the discussed topics of the week. These forms are kept on file in the project area.

In the event that any existing roads in the project area are severely damaged as a result of Pilot Gold activities, Pilot Gold would return them as close as possible to their original condition.

All applicable state and federal fire laws and regulations would be complied with and all reasonable measures would be taken to prevent and suppress fires in the project area.

All equipment and other facilities would be maintained in a safe and orderly manner. All equipment would be properly muffled and equipped with suitable and necessary fire suppression equipment, such as fire extinguishers and hand tools. All project-related traffic would observe prudent speed limits to enhance public safety; protect wildlife, livestock, and wild horses; and minimize dust emissions. All activities would be conducted in conformance with applicable federal and state health and safety requirements.

Migratory Birds

Prior to surface disturbance being conducted during the avian breeding season (March 15 through July 31), Pilot Gold would provide a biologist to conduct migratory bird nest surveys of active working areas within the project area to verify no nesting birds would be affected. During the period from March 15 to May 30, all ground-disturbing activities would be completed within 14 days of the date on which the nest survey was performed. If activities begin or last more than 14 days from the date of the most recent nest survey, another nest survey would be performed to ensure that no nests are disturbed and that no take of migratory birds occurs. A single migratory bird nest survey would be performed without the 14-day time restriction for project activities occurring between May 30 and July 31 as most migratory bird species would have completed their nesting activities by then. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) would be delineated in coordination with the Nevada Department of Wildlife (NDOW) and the buffer area avoided to prevent destruction or disturbance to birds or nests until they are no longer active.

In addition to performing migratory bird nesting surveys, a biologist would monitor the golden eagle (*Aquila chrysaetos*) nest that is located approximately 1.5 miles north of the project area. The biologist would coordinate with the BLM wildlife biologist, NDOW, and the United States Fish and Wildlife Service (USFWS) on the methodology and frequency of the nest monitoring prior to commencement of surface disturbance within or near the project area.

In order to confirm the status of the stick nests located along the Mine Haul Road and within the project area, a biologist would also visit this nest locations during the first migratory bird nesting survey conducted for the project.

Soils

Stabilization measures would be utilized on slopes steeper than 30 percent. Switchbacks would be avoided to the maximum extent practicable.

Visual Resources

Disturbance would be minimized to reduce visual contrast. Disturbed areas would be restored to original contour and revegetated with native species to maintain landscape elements of line, form, texture, and color. To maintain dark sky conditions, light sources would be shielded so that the light would be cast in a downward direction to limit light pollution and related impacts.

Wildlife and Range Resources

All sumps and other small excavations that pose a hazard or nuisance to the public, wildlife, or livestock would be constructed with ramps that allow for safe egress. Activities are restricted to frozen or dry ground conditions where feasible. Operations would be curtailed when saturated and soft soil conditions exist.

If access is required through a livestock fence, Pilot Gold would replace the livestock fence with a temporary gate.

Pilot Gold would provide training to employees and contractors prohibiting the feeding or harassment of wildlife.

Pilot Gold would report wildlife mortality that occurs within the project area to NDOW.

The BLM and NDOW have agreed on an appropriate site for a temporary proposed guzzler location (Figure 5). The location of the guzzler provides easy access and is in a location where the antelope can avoid crossing the exploration access roads to get to the guzzler. Materials for the guzzler would be supplied by NDOW; installation of the guzzler would be done by NDOW and BLM, of which Pilot Gold would maintain filling the guzzler in the summer.

Water Resources

Generally, all drill holes would be surveyed and plugged as an operational procedure immediately after completion of drilling in accordance with NAC Chapter 534.4369 and 534.4371, or if groundwater is encountered, plugged as a well pursuant to NAC 534.4365. Up to three drill holes would be collared with a reverse circulation drill rig and completed using a core rig. Once the core rig has completed drilling, the hole would be plugged.

Wastes

Pursuant to 43 CFR 8365.1-1(b)(3), no sewage, petroleum products, or refuse would be dumped from any trailer or vehicle.

Only non-toxic fluids would be used in the drilling process.

Drill cuttings would be contained on-site and drill fluids managed utilizing appropriate control measures. Sediment traps would be used as necessary and filled at the end of the drill program.

Regulated wastes would be removed from the project area and disposed of in a state, federal, or local designated area.

All project-related refuse would be disposed of on a daily basis consistent with applicable regulations. No refuse would be disposed of on-site. In the event that hazardous or regulated materials such as diesel fuel are spilled, measures would be taken to control the spill and the BLM and NDEP would be notified. The Spill Plan (Appendix D of the Plan of Operations) outlines procedures in case of a spill. All drill holes would be abandoned in accordance with applicable federal and state standards.

If high silica dust, via the potential use of air track drilling and blasting while building sections of the exploration roads is encountered, then equipment modification (i.e. water spray bars) would be installed to mitigate the dust.

Reclamation

Final reclamation of constructed drill sites and exploration roads would be completed to approximate the original topography, and reseeded in the fall season immediately following completion of exploration activities.

Re seeding would be consistent with all BLM and NDOW recommendations for seed mix constituents, application rate, and seeding methods.

A minimum of three revegetation test plots would be installed along each transect surveyed within the project area to test the initial success of reclamation and revegetation techniques and seeding. Revegetation transect survey data would be used to measure the success of the test plots.

Other

Any survey monuments, witness corners, or reference monuments would be protected to the extent economically and technically feasible. Should damage occur to a survey monument during project-related activities, Pilot Gold would promptly report this occurrence to the BLM.

2.3 NO ACTION ALTERNATIVE

The NEPA requires that an alternative of No Action be analyzed in an EA. Under the No Action Alternative, the Proposed Action would not be approved. Pilot Gold could continue exploration activities under their approved Notice for approximately 4.97 acres of surface disturbance and continue to extract gravel from the gravel pit for up to 1.79 acres of disturbance, for a total of 6.76 acres of disturbance. The 4.97 acres could be reclaimed and released by the BLM, based on compliance with the revegetation success release criteria; thereby, allowing Pilot Gold to create another Notice for up to five acres of disturbance for exploration activities. Activities associated with this total disturbance of up to five acres of surface disturbance include maintenance of existing access roads, construction of exploration roads, and construction of drill pads, and reclamation. A new mineral material sale would be issued if additional gravel beyond 1,000 cubic yards would be necessary to continue road maintenance.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Pilot Gold and BLM considered two alternatives to the Proposed Action, but were eliminated from further analysis. Under the approved Notice, Pilot Gold is utilizing Chin Creek Reservoir for water. Chin Creek Reservoir is located approximately 8.5 miles south of the project area within White Pine County, Nevada. The operation of water trucks and support vehicles traveling to and from Chin Creek Reservoir to the project area for the 10-year life of the project would result in unnecessary road degradation and impacts to air quality. The increased travel times to and from the project to the reservoir, as well as conducting baseline surveys along the 8.5 miles of the road would render the project economically infeasible. As compared to the Proposed Action, Pilot Gold would utilize water from a nearby source within two miles, therefore minimizing unnecessary degradation to roads. This alternative is economically infeasible and does not result in incremental environmental benefits; therefore, it has been eliminated from detailed analysis.

Utilizing water for project-related activities from Dolly Varden Spring, located approximately 15 road miles northwest of the project area was also analyzed as an alternative. The operation of

water trucks and support vehicles traveling to and from Dolly Varden Spring to the project area for the life of the project would result in unnecessary degradation to roads and impacts to air quality. Under this alternative, water trucks would be required to travel from the project, across the highway, to the spring, which would result in impacts to traffic and transportation. Additionally, the increased travel times to and from the project to the spring, as well as conducting baseline surveys along the 15 miles of the road, would render the project economically infeasible. Under the Proposed Action, water adjacent to the project area within the same hydrographic basin would be utilized to minimize impacts. Water trucks utilized at exploration projects are not licensed for travel on major highways, and if water was obtained from this location, travel over U.S. Highway 93-Alternate would be required. This alternative is economically infeasible and does not result in incremental environmental benefits; therefore, it has been eliminated from detailed analysis.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES FOR THE PROPOSED ACTION AND NO ACTION ALTERNATIVE

3.1 INTRODUCTION

Elevations in the project area range from approximately 6,200 to 7,725 feet AMSL. The project is located on approximately 2,840 acres of public land administered by the BLM. This EA analyzes 70.69 acres of surface disturbance associated with the Proposed Action. Past and present land uses that have contributed to existing conditions include: mineral development and exploration; utilities; roads; wildland fires; livestock grazing; and mining. Dispersed recreation such as hunting and off-highway vehicle (OHV) use also occur in portions of the project area.

Resources or elements that are managed under supplemental authorities (subject to requirements specified by statute or Executive Order) must be considered in all BLM environmental documents. There are seventeen elements associated with the supplemental authorities listed in the BLM NEPA Handbook (BLM, 2008; Appendix 1). Table 8 lists the elements and their status in the project area. If an element listed under the supplemental authorities does not occur in the project area and would not be affected, they are not discussed further in this EA. The elements that have the potential to be affected by the Proposed Action, are analyzed in Section 3.2. The elimination of irrelevant issues follows Council on Environmental Quality policy, as stated at CFR 1500.4.

Table 8 Resources or Elements Associated with Supplemental Authorities Considered

Supplemental Authorities	Not Present	Present/ Not Affected	Present/ May be Affected	Rationale/Reference Section
Air Quality and Atmospheric Values			X	See Section 3.2.1.
Areas of Critical Environmental Concern	X			There are no Areas of Critical Environmental Concern in the project area.
Cultural Resources			X	See Section 3.2.2.
Environmental Justice	X			The proposed action would have no effect on environmental justice.
Floodplains	X			There are no floodplains within the project area
Forestry and Woodlands			X	See Section 3.2.3.
Invasive Non-Native Species and Noxious Weeds			X	See Section 3.2.5.
Migratory Birds			X	See Section 3.2.7.
Native American Religious Concerns			X	See Section 3.2.8.
Prime or Unique Farmlands	X			There are no known designated prime or unique farmlands in the project area.

Supplemental Authorities	Not Present	Present/ Not Affected	Present/ May be Affected	Rationale/Reference Section
Threatened, Endangered, or Candidate Species			X	See Section 3.2.14.
Wastes, Hazardous or Solid		X		See Section 3.2.17.
Water Quality (Surface and Ground)			X	See Section 3.2.18.
Wetlands and Riparian Zones	X			The proposed action would have no effect on wetlands and riparian zones.
Wild and Scenic River	X			There are no wild and scenic rivers in the project area
Wilderness and Wilderness Study Area	X			There are no wilderness and wilderness study areas within the project area.

In addition to the resources or elements managed under supplemental authorities, the BLM considers other resources and uses that occur on public lands and the issues that may result from the implementation of the Proposed Action. Other resources or uses of the human environment that have been considered for this EA are listed in Table 9 below.

Table 9 Additional Affected Resources

Other Resources	Present, Potentially Affected	Reference Section
Geology and Mineral Resources	X	See Section 3.2.4.
Land Use, Access, Realty	X	See Section 3.2.6.
Paleontology	X	See Section 3.2.9.
Range Resources	X	See Section 3.2.10.
Recreation	X	See Section 3.2.11.
Social Values and Economics	X	See Section 3.2.12.
Soils	X	See Section 3.2.13.
Special Status Species	X	See Section 3.2.14.
Vegetation	X	See Section 3.2.15.
Visual Resources	X	See Section 3.2.16.
Wild Horses	X	See Section 3.2.19.
Wildlife	X	See Section 3.2.20.

3.2 EFFECTS OF THE PROPOSED ACTION

The purpose of this section is to describe the affected environment and assess the direct and indirect impacts associated with project related activities. Direct impacts are caused by the action and occur at the same time and place.

Indirect impacts are those impacts, which are caused by the action and are later in time or farther removed in distance; however, are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems,

including ecosystems. Effects include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the effect will be beneficial (40 CFR 1508.8).

3.2.1 Air and Atmospheric Values

3.2.1.1 Affected Environment

Climate

The project is located in the southeastern portion of Elko County, Nevada, approximately 52 miles south of West Wendover. The climate is arid and characterized by warm, dry summers and cold, wet winters. The mean annual precipitation (including rain and measured precipitation from snow) in Lages, Nevada, located approximately 15 miles southwest of the project, is 8.07 inches total, with a mean annual snowfall of 21.9 inches (WRCC, 2012). The average annual low and high temperatures are 31.6 degrees Fahrenheit (°F) and 62.7°F, respectively. Ely, Nevada, located approximately 69 miles southwest of the project, is the closest location with prevailing winds that resemble similar conditions at the project area. The prevailing wind direction in Ely is south with an average wind speed of approximately 10 mph with gusts reaching a high of approximately 61 mph (NCDC, 1998).

Air Quality

The project is located within the Antelope Valley Air Basins (186A) and (186B) of the NDEP air quality regions. The Antelope Valley Air Basins are designated by the EPA as “unclassified” per National Ambient Air Quality Standards as set in 40 CFR 81.329. An unclassified area is one for which no ambient air quality data is available and the ambient concentrations could be above or below the ambient air quality standards; however, unclassified areas are managed as in attainment. Generally, the ambient air quality over much of the valley is good, due to the limited population and absence of major industrial activity. The project area is classified as a Class II area under the Clean Air Act declaring the prevention of significant deterioration regulations.

The Antelope Valley Air Basins are areas in attainment with ambient air quality standards. Therefore, any introduced new sources within these basins must evaluate their potential impacts to air quality with respect to the ambient standards. The major sources of concern for this project include fugitive road dust, wind-borne particulate matter, re-suspension road dust, and diesel engine exhaust emissions.

Climate Change

According to the BLM’s Instruction Memorandum No. 2008-171, “Guidance on Incorporating Climate Change into Planning and NEPA Documents,” dated August 19, 2008, climate change considerations should be acknowledged in EA documents. The Instruction Memorandum states that ongoing scientific research has identified the potential impacts of anthropogenic (man-made) greenhouse gas (GHG) emissions and changes in biological carbon sequestration due to land

management activities on global climate. Through complex interactions on a regional and global scale, these GHG emissions and net losses of biological carbon sinks cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia, recent industrialization and burning of fossil carbon sources have caused carbon dioxide (CO₂) concentrations to increase dramatically, and are likely to contribute to overall global climatic changes. The Intergovernmental Panel on Climate Change recently concluded that “warming of the climate system is unequivocal” and “most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

Several activities contribute to the phenomena of climate change, including emissions of GHGs (especially CO₂) from fossil fuel development, large wildland fires, and activities using combustion engines, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo). It is important to note that GHGs would have a sustained climatic impact over different temporal scales. For example, recent emissions of CO₂ can influence climate for 100 years. The leading causes of GHG emissions in Nevada can be attributed to electrical generation, transportation, resident/commercial fuel use, and wildland fires. Nevada historical data measured since 2005 indicated CO₂ to represent approximately 91 percent of GHG emissions with methane, nitric oxide, and hydrofluorocarbons/perfluorocarbons representing approximately four percent, three percent, and two percent, respectively (NDEP, 2008). By 2020, transportation is expected to account for 33.2 percent of statewide GHG emissions. Main contributors near the project area would include vehicles used in construction and agricultural production.

Current emissions within the vicinity of the project area include vehicle combustion emissions, fugitive dust from travel on unimproved roads, ranch activities, and wildland fires. Emissions of all pollutants are generally expected to be low due to the seclusion and extremely limited number of sources located in the vicinity of the project area. Future actions would have incremental change in CO₂ emission; however, the tools necessary to quantify incremental climate impacts of specific actions are presently not available. Specific levels of significance have not been established.

Existing climate prediction models are global in nature; therefore, they are not at the appropriate scale to estimate potential impacts of climate change within the Antelope Valley Air Basins in which the project is located. Due to the nature and scale of the Proposed Action, effects on climate change are not further analyzed in the EA.

3.2.1.2 Environmental Consequences

Proposed Action

Exploration activities would disturb up to 70.69 acres of soil for construction of roads, drill sites, water well(s), and gravel pit. Construction and operations would create fugitive dust and engine exhaust emissions causing minor impacts to air resources. Prevailing winds from the south are expected to dissipate fugitive dust emissions during most times of the year. Speed limits on access roads would be observed and travel on routes within the project area would be conducted at prudent speeds for safety. EPMs outlined in Section 2.2.13 would be applied where fugitive dust is encountered by the potential use of magnesium chloride and by using water trucks and protecting the road surface with gravel for dust suppression during dry conditions (as outlined in the SAD permit for the project). Concurrent reclamation (Section 2.2.12.1) including revegetation of proposed surface disturbance would gradually eliminate any potential for long-term impacts to air resources. Therefore, impacts to air from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Under the No Action Alternative, mineral exploration activities currently permitted in the project area and activities at the existing gravel pit would continue. The level of impact to air quality would be proportionally less than those associated with the Proposed Action. Engine emissions and fugitive dust caused by travel on dirt roads, drilling, activities at the gravel pit, or other dispersed recreation travel within the project area would occur causing minor impacts to air resources. The No Action Alternative would have minimal impacts to air quality.

3.2.2 Cultural Resources

3.2.2.1 Affected Environment

From May 30 through October 15, 2012, Mesa Field Services performed a Class III archaeological inventory of 2,848 acres that included the southern claim block, Well Sites 1 and 2, and the gravel pit (Mesa Field Services, 2012). The Kinsley Mountain Mine, scree slopes, and cliff faces, totaling approximately 327 acres, were excluded from inventory as a result of the difficulty in access and low probability for cultural material. Therefore, a total area of 2,521 acres was inventoried for cultural resources.

Per the approved BLM project authorization (BLM1-2955[P]), no subsurface testing or artifact collection was conducted by Mesa Field Services during the inventory. All work was executed in accordance with guidelines set forth by Section 106 of the NHPA, as amended, the Nevada State BLM Cultural Resources Inventory Guidelines, and the Nevada BLM and State Historic Preservation Office State Protocol Agreement. Field work was completed by Mr. Sean Simpson under Mesa Field Services' Nevada BLM Cultural Use Permit Number N-90108. The survey was accomplished by walking parallel transects spaced no more than 30 meters apart, unless

slope or ground cover was too difficult to traverse. Coverage was completed using cardinal transect techniques, either surveying east to west or north to south. In areas of extreme slopes, above the 6,930 feet AMSL contour interval, survey efforts were focused on ridge tops, benches, and other areas where there was a high potential for cultural resources. When cultural resources were encountered, personnel performed transects in the immediate area at five-meter intervals to identify the extent of the discovery and locate associated artifacts or features. All cultural resources located within the direct area surveyed and those that extend outside of it were fully recorded in the field.

As a result of the survey, 51 archaeological sites and 26 isolated artifacts were inventoried. Five of the sites were previously recorded and 46 were new discoveries. The sites included seven prehistoric, 37 historic, and seven multi-component sites with prehistoric and historic materials. Most of the historic sites are small debris scatters; however, three are habitation sites including two with tent flats and one with a standing cabin. The five previously recorded sites were documented by Retrospect Research Associates in 1987. At that time, they were determined to not meet the standards for inclusion to the NRHP. Five of the sites documented during the current survey are recommended eligible for nomination to the NRHP including a prehistoric site containing Intermountain brownware or Shoshoni Ware, an isolate fire hearth recently exposed in a drainage, and a small-scale gold mining operation consisting of a system of three related sites. The historic gold mining operation includes a mine or extraction site with a standing cabin, an ore beneficiation and refinement site, and a residential camp.

3.2.2.2 Environmental Consequences

Proposed Action

The Proposed Action would result in approximately 70.69 acres of ground disturbance. The proposed exploration drilling could impact prehistoric, historic, and multi-component sites directly as the result of damage incurred by construction activities. Indirect effects could result from improving access to the project area by building roads in close proximity to the sites. Creation of new or improved access can often result in substantial and long lasting adverse effects to cultural resources nearby. A number of studies (Williams, 1978; Lyneis et al., 1980; Nickens et al., 1981) have shown that increased access leads to both intentional and incidental deterioration of cultural resources. Nickens et al., (1981) found most archaeological sites within approximately 300 feet of improved roads exhibited evidence of vandalism or illegal collection. Sites at considerably greater distances also suffered damage but with less frequency as distance increased (Desjean and Wilson, 1990; Ison et al., 1981; Nickens et al., 1981). With the advent of widespread ATV use in the last decade, the BLM anticipates that the spread of damage beyond new access roads can occur as a result of facilitating access to remote areas.

Adverse effects can be mitigated or lessened by designing roads and drill pads away from eligible cultural resources and by using an archaeological monitor whenever project activities occur in close proximity to eligible sites. Activities associated with the Proposed Action include upgrading existing roads or constructing new roads. Road construction would be confined to a 50-foot corridor. To avoid impacts to eligible and unevaluated sites, the mitigation measures outlined in Section 5.2.1 and the EPMs outlined in Section 2.2.13 would be implemented including placing a 50-meter buffer around the eligible cultural sites to prevent direct impacts. Pilot Gold would adjust their drilling schedule so as not to impact the sites. Indirect impacts to potential significant cultural properties in the area would be mitigated by reducing the amount of surface-disturbing activities overall and the rehabilitation of pads and access roads to be commenced upon completion of exploratory activities. The project would not result in the construction of permanent roads that often result in adverse effects to sites due to vandalism or illegal collection. Impacts to the visual setting are expected to occur during project-related activities and last until revegetation is complete. Project-related disturbance would be phased, occur throughout the project area, and reclamation would occur in phases, thereby minimizing impacts to the visual setting of cultural resources.

Two existing roads to be used are within the 50-meter buffers but outside the site boundaries for two of the significant sites. In an effort to limit disturbance, permission is being granted within the buffer zones for access along the existing roads. Activity along these roads in the vicinity of the significant properties may require an archaeological monitor at the discretion of the BLM. Historic mining-related features for the standing cabin site remain open and pose a risk to wildlife and the public. The two entrances to the features are to be bulldozed closed. To protect human safety, the BLM proposes a permit to close the mine working with a foam closure after the reclaimed road is opened for exploration drilling to prevent access by humans. In conformance with the Nevada State Protocol Appendix F, Section B, Hazards Abatement (3)(b) (revised January 2012), the permit accounts for impacts to the mine working for the closure. The standing cabin would be avoided by project design and should not be adversely affected by the Proposed Action. Provided the recommendations of this study are implemented, proposed project activities within the APE should result in a no adverse effect to significant cultural properties.

No Action Alternative

Under the No Action Alternative, Pilot Gold would continue operating under the authorized surface disturbance allowing up to 6.76 acres of surface disturbance. No impacts to cultural resources are anticipated because all impacts to NRHP eligible sites or their contributing elements would be avoided.

3.2.3 Forestry and Woodlands

3.2.3.1 Affected Environment

The project area is composed of approximately 1,878.16 acres of Great Basin Pinyon-Juniper Woodland vegetation community (Figure 5). Dominant tree species within the Pinyon-Juniper Woodland vegetation community are pinyon pine (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*), with scattered curl-leaf mountain mahogany (*Cercocarpus ledifolius*). The project area is not within a designated or proposed old growth management area, nor is it within a proposed old growth forest stand. No commercial timber harvest areas are located within the project area; however, the area is open to the public for domestic firewood collection, pine nut gathering, and Christmas tree cutting (BLM, 1985).

3.2.3.2 Environmental Consequences

Proposed Action

The Proposed Action would affect less than four percent of Great Basin Pinyon-Juniper Woodland within the project area. The Proposed Action would not restrict activities associated with domestic firewood collection, pine nut gathering, or Christmas tree cutting. EPMs discussed in Section 2.2.13 would minimize the risks of attracting forest pests to adjacent stands. Tree removal associated with road construction and exploration activities would be avoided where possible and loss of timber resources would be minimal. When tree removal cannot be avoided, Pilot Gold would cut trees and place them along the uphill side of the road for public collection. Activities associated with the Proposed Action would create additional roads within the project area, which could increase accessibility to areas within the Great Basin Pinyon-Juniper Woodland that were previously isolated; therefore, enhancing domestic forestry and woodland uses. Additionally, exploration in the southern part of the project area would utilize and re-open previously reclaimed exploration roads that would not require tree removal. Therefore, impacts to forestry and woodlands from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Exploration activities would continue under the No Action Alternative, with minimal need for tree removal or impacts to forestry and woodland uses.

3.2.4 Geology and Mineral Resources

3.2.4.1 Affected Environment

The Kinsley Mountains are underlain primarily by shelf and platform limestone, dolostone, and shale ranging in age from Middle Cambrian to Late Ordovician. Geological formations exposed in the project area include: an unnamed Middle Cambrian limestone; the Middle Cambrian Lamb Dolomite, Big Horse Limestone, and Candland Shale; the Upper Cambrian Notch Peak Limestone and Notch Peak Dolomite; and the Ordovician Pogonip Group limestone, shale, and

dolomite (Mine Development Associates Mine Engineering Services, 2012). On a regional scale, strata become younger to the north. A low-angle fault locally juxtaposes this sequence with overlying quartzite and dolostone suspected to be Late Ordovician to Silurian in age. The south end of the range is intruded by a small Tertiary stock with a hornfelsed aureole. Tertiary volcanic rocks are exposed in pediment areas on either side of the range. Strata were subjected to ductile contractional deformation in mid-Mesozoic time and Tertiary low- and high-angle extensional faulting. Low-angle faults bound most major lithologic breaks, and in some cases cut out entire formations. North- to northeast-striking faults are cut by northwest-trending structures (Mine Development Associates Mine Engineering Services, 2012).

Gold mineralization drilled and produced in the project area is hosted primarily in the Big Horse Limestone, Candland Shale, and Notch Peak Limestone. The gold is accompanied by very fine grained disseminations of arsenical pyrite (or oxidized equivalents) in variably silicified or jasperoidal shale, limestone, and dissolution-cavity fill. Mineralization appears to have both stratigraphic and structural controls. Gold correlates with arsenic, antimony, and thallium. Near-surface mineralization in the project area is strongly oxidized, and higher-grade unoxidized mineralization has been intersected in drilling below and adjacent to the mined pits (Mine Development Associates Mine Engineering Services, 2012).

3.2.4.2 Environmental Consequences

Proposed Action

The Proposed Action would not involve the removal of large amounts of rock other than from drill holes for geochemical testing and geologic study. The Proposed Action would increase the understanding and knowledge of geology and mineralization within the project area. Although the project would result in removal of rock, the amount of rock proposed to be removed is minimal compared to the amount present in the project area. Therefore, the impacts to geology and minerals from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Exploration activities would continue under the No Action Alternative, with only minimal removal of samples and no effects to geology and mineral resources expected.

3.2.5 Invasive Non-Native Species and Noxious Weeds

3.2.5.1 Affected Environment

An “invasive species” is defined as a species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112). Invasive, non-native species are species that reproduce quickly, mature rapidly, and spread aggressively. They include fungi,

feral animals, invertebrates, and weeds designated as “invasive,” “noxious,” or “pests” by federal, state, or other legally responsible authority. There are no known invasive, non-native animal species (pests), fungi, or invertebrates that are mandated for control in the project area; therefore, they are not further addressed in this EA.

The following five invasive, non-native species were observed within the project area: cheatgrass (*Bromus tectorum*); saltlover (*Halogeton glomeratus*); clasping pepperweed (*Lepidium perfoliatum*); curvseed butterwort (*Ceratocephala testiculata*); and prickly Russian thistle (*Salsola tragus*). Cheatgrass was the most extensively established invasive species within the project area and occurred on all aspects of slopes ranging from gentle to steep. Additionally, three introduced species occur in the project area including forage kochia (*Bassia prostrata*), crested wheatgrass (*Agropyron cristatum*), and small burnet (*Sanguisorba minor*). All of the invasive, non-native species and introduced species were generally located in the reclaimed areas, disturbed open areas, along roadsides and other clearings, and in other similar areas where native vegetation was sparse or previously disturbed.

An outcrop of nodding plumeless thistle (*Carduus nutans*) was detected in the project area (Figure 5). Nodding plumeless thistle is a Nevada-listed noxious weed species, Category B (NDA, 2012). As described by the Nevada Department of Agriculture, Category B weed species are established in scattered populations and control is required by the state in areas where populations are not well established or previously unknown to occur (NDA, 2012).

3.2.5.2 Environmental Consequences

Proposed Action

Surface disturbance associated with the Proposed Action could impact up to 70.69 acres of soils for exploration and road construction activities.

New surface disturbance would increase the potential for the establishment and spread of invasive, non-native species, and noxious weeds. Increased vehicle travel to and from Well Sites 1 or 2 would increase the potential for spreading noxious weeds and invasive non-native species in the project area. The project area is relatively weed-free with the exception of one small population of nodding plumeless thistle. Three proposed drill sites are located within approximately 300 to 400 feet of the population of nodding plumeless thistle. Prior to any activities relating to these three proposed drill sites, Pilot Gold would work with BLM to eradicate the entire population of nodding plumeless thistle.

EPMs discussed in Section 2.2.13 state that noxious weeds would be controlled through the implementation of preventative BMPs and eradication measures conducted in coordination with the BLM if noxious weeds are found within the project area. Concurrent reclamation including

revegetation would help to minimize the introduction and/or spread of noxious weeds. Pilot Gold would monitor and treat any noxious weed infestations that resulted from ground-disturbing activities within the project area for at least three years following the treatment of the infestation until reclamation is completed. Treatments would be permitted, applied, and recorded per BLM policy. Pilot Gold has prepared a Noxious Weed Management Plan for this project (Appendix B). The BLM and Pilot Gold would cooperate to monitor the effectiveness of treatments on noxious weeds. Therefore, impacts from invasive non-native species and noxious weeds from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

The potential for weed invasion in areas of disturbance and transport of weed seed by animals, humans, and vehicles would continue to occur under Notice-level activities under the No Action Alternative. Weed management would continue as an active program for the BLM.

3.2.6 Land Use, Access, and Realty

3.2.6.1 Affected Environment

Land Use

The project is located in southeast Elko County, Nevada, and located entirely on public land managed by the BLM Elko District Office, Wells Field Office in Elko, Nevada. The Wells RMP was approved in 1985 and covers the eastern half of Elko County in which the project area is located. The RMP has been amended or updated to be consistent with current BLM programs and policies. The BLM administers approximately 76 percent of the land within the Wells RMP boundaries. The remaining 24 percent consists of privately-owned land in a 40-mile-wide checkerboard pattern. The RMP supports the following federal policies: Mining and Minerals Policy Act of 1970; Section 102 of the FLPMA; and BLM's Mineral and National Energy Policy.

Land use authorizations and land tenure information was obtained from BLM's Land and Mineral Legacy Rehost 2000 System (LR2000) for mineral leasing, ROWs, and land and mineral title documents, withdrawals and classifications after 1984 (BLM, 2012a). The primary land uses within and adjacent to the project area include: mining; livestock grazing; wildlife habitat; and dispersed outdoor recreation.

Access

The project area would be accessed from West Wendover via existing roads as described in Section 2.2.3 and shown on Figure 2. The primary access to the project would be along the Kinsley Mountain Mine Road, which originates at its junction with U.S. Highway 93-Alternative in Section 24, T28N, R67E, to its junction with the Mine Haul Road in Section 4, T26N, R68E, a

distance of approximately 11 miles. The project would then be accessed along the Mine Haul Road approximately 1.5 miles to the west. The Mine Haul Road was built by Alta Gold Inc. in 1985. The Kinsley Mountain Mine Road would also be used to access Well Site 1, Well Site 2, and the gravel pit.

Pilot Gold would access the western side of the project along the Kinsley Draw Road. This road originates at the junction with the Kinsley Mountain Mine Road in Section 17, T27N, R68E, and ends at the north boundary of the project in Section 36, T27N, R67E, a distance of approximately 5.44 miles. This route was used by Pilot Gold to access drill sites on the west side of the project area during Notice-level activities, and was partially armored with gravel to control soil and water erosion. This route would also be used for access to Well Site 3.

The project area occurs within the Boone Springs and Antelope Valley grazing allotments. Access to use of the grazing allotments is along U.S. Highway 93-Alternate. A number of four-wheel drive and overland trails are present within the vicinity of the project area that may be used by the grazing operator. See Section 3.2.10 for further discussion on grazing allotments.

The project area is designated “open” to OHV use under the Wells RMP (BLM, 1985). Access to recreation uses within the project area are along U.S. Highway 93-Alternate. A number of four-wheel drive and overland trails are present within the vicinity of the project area that may be used for recreation. Any unauthorized use of these routes for other than casual use, including those portions of the Kinsley Mountain Mine Road and route along Kinsley Draw used for access, could be considered as trespass per 43 CFR 2808.10.

Realty

Access onto public lands for other than casual use would require a ROW grant. Casual use may entail travel over existing roads for purposes of sampling, surveying, and activities that do not cause any appreciable disturbance or damage to the public land, resources, or improvements. BLM issues a ROW grant for access on public land for mineral material lease or mining operations under Title V of FLMPA 43 U.S.C 1762 et seq as provided in 43 CFR 2800.

Master Title Plats were searched for historical data and ROWs on Nevada BLM’s Land Records web site ([http://www.nv.blm.gov/Land Records/](http://www.nv.blm.gov/Land%20Records/)). Two ROW grants for access roads that Pilot Gold has used for access to their project area were identified and are described below.

NDOT, BLM ROW Grant NVN-01151

The ROW was applied for on April 4, 1975, amended in 1980, and was granted on July 8, 1981. The grant includes a 30-foot ROW to NDOT for access to their gravel pit located in Section 32,

T28N, R68W from U.S. Highway 93-Alternate. The ROW follows the Kinsley Mountain Mine Road and is located in Section 32, as described below (Figure 1).

NDOT Access Road ROW

Section 24, T28N, R67E, S1/2N2, NW1/4SE1/4;
Section 19, T28N, R68E, E1/2SW1/4, S1/2SE1/4;
Section 19, T28N, R68E, Lot 7;
Section 29, T28N, R68E, E1/2W1/2, NW1/4NW1/4;
Section 30, T28N, R68E, NE1/4NE1/4.

NDOT Access Road and Gravel Pit ROW

Section 32, T28N, R68E, W1/2NE1/4, S1/2NW1/4, N1/2SW1/4, NW1/4SE1/4.

Hill Air Force Base, Utah, BLM ROW grant NVN-087465

The ROW was granted on July 30, 2009. A 15-foot ROW was granted to the United States Air Force for access from U.S. Highway 93-Alternate to their communications site located in Section 18, T27N, R69E. The ROW crosses Kinsley Mountain Mine Road and Kinsley Draw Road in Section 17, T27N, R68E. The ROW location is listed below (Figure 1).

Hill Air Force Base Access Road ROW

Section 34, T28N, R67E, SW1/4NE1/4, SE1/4NW1/4, NW1/4SE1/4, SE1/4SE1/4;
Section 3, T27N, R67E, Lot 1;
Section 2, T27N, R67E, Lots 3, 4;
Section 2, T27N, R67E, SW1/4NE1/4, SE1/4NW1/4, N1/2SE1/4;
Section 1, T27N, R67E, W1/2SW1/4, SE1/4SW1/4;
Section 12, T27N, R67E, NE1/4, NE1/4NW1/4;
Section 7, T27N, R68E, S1/2NE1/4, SE1/4NW1/4, NE1/4SE1/4;
Section 7, T27N, R68E, Lots 5, 6;
Section 8, T27N, R68E, W1/2SW1/4, SE1/4SW1/4;
Section 16, T27N, R68E, E1/2NE1/4, SW1/4NW1/4, N1/2S1/2;
Section 17, T27N, R68E, S1/2NE1/2, E1/2NW1/4.

Federal Aviation Administration

The Federal Aviation Administration (FAA) maintains a listing of all regulatory and non-regulatory Special Use Airspace Areas in the United States and its territories. A regulatory special use airspace consists of airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature or, or wherein limitations are imposed upon aircraft operations that are not a part of those activities. Vertical limits are designated by altitude floors and ceilings expressed as flight levels or feet AMSL, and

the period of time during which a designation of special use airspace is in effect. Non-regulatory Special Use includes Military Operations Areas wherein airspace controls are established to segregate non hazardous military activities from hazardous activities such as air combat maneuvers, air intercepts, and acrobatics.

Two Special Use Airspace Areas were identified in the latest printed version of FAA Order Job Order 7400.8N dated January 26, 2012, and are described below.

Gandy Military Operations Area, Utah. The non-regulatory air space is used by the 6501 Range Squadron, Hill AFB, Utah, and is controlled by FAA, Salt Lake City air traffic control center. The air space is approximately 11 miles wide by 81 miles long and the project area is located near the center of this designated air space. Altitude limitations are in place for 100 feet above ground level to but not including flight level 180 from 0700 to 0000 hours Monday through Friday and 0800 through 1700 hours on Sunday.

R-6405 Wendover, Utah. The regulatory air space is used by the 388th Fighter Wing, Air Combat Command, Hill AFB, Utah, and is controlled by FAA, Salt Lake City air traffic control center. The air space lies directly to the east of the Gandy Military Operations Area to the Nevada state line and the southern half extends another 45 miles into Utah. Altitude limitations are in place continuously for 100 feet above ground level to flight level 580.

3.2.6.2 Environmental Consequences

Proposed Action

There would be an incremental change in land use for Well Sites 1 and 2 due to land associated with these sites being temporarily unavailable during construction activities associated with the Proposed Action. Potential impacts to land use would be a temporary impact to dispersed recreational opportunities and access to grazing allotments because localized project activities could temporarily block access on roads to and through the project area. Project-related activities would occur over the life of the project and would be dispersed throughout the project area. Exploration activities in the project area would restrict visitor use in that specific area; however, improved access to the general area by construction of the exploration roads would be a beneficial impact to hunters, other recreationists, and grazing operators. Road improvements could increase OHV activity in the area. Changes in wildlife movement could occur during active exploration (i.e., exploration drilling and associated traffic) and following project activities as a result of habitat loss.

There would be an incremental increase in traffic on U.S. Highway 93-Alternate and the Kinsley Mountain Mine Road during mobilization and demobilization of approximately eight trucks. Approximately eight vehicles would be used daily for workers commuting to the site and for

delivery of supplies. This minor increase in daily traffic is not expected to affect traffic conditions on U.S. Highway 93-Alternate or result in any safety issues for turning movements onto and off of Kinsley Mountain Mine Road. There would be an increase in truck traffic on the Kinsley Mountain Mine Road between the well site and the Mine Haul Road by up to 15 truck trips per day during peak drilling activities. The increased traffic may be considered as a nuisance to local users but it would not affect traffic conditions. Maintenance of the Kinsley Mountain Mine Road would be a benefit to other authorized users such as grazing lease operators and public access for recreational purposes. Public access would be allowed within the project area.

A total of 18.3 miles of new access routes would be added to the inventory of ROW grants authorized and administered by the BLM. The BLM reserves the right to grant additional ROW on, over, and adjacent to other existing ROW grants. Approximately 0.23 acre of land would require a ROW grant for Well Site 1, 0.23 acre for Well Site 2, and 0.23 acre for Well Site 3. Well Sites 1 and 2 as well as the gravel pit are located next to the Kinsley Mountain Mine Road and access to these sites is included in the proposed area for these facilities. Operation and management of the project would be in full compliance with any FAA regulations regarding Special Use Airspace.

Post-reclamation land use of most of the project area would be returned to mineral activities, wildlife habitat, livestock grazing, recreation, and wild horse habitat. These uses would be consistent with local and BLM land use plans and guidelines. Therefore, impacts to land use, access, and realty from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Under the No Action Alternative, impacts to land use would continue to be minimal and consist of Notice-level activities including mineral exploration and associated traffic. Pilot Gold's exploration activities and access would be limited to existing roads and acres of disturbance authorized in the Notice.

3.2.7 Migratory Birds

3.2.7.1 Affected Environment

Migratory birds are those listed in 50 CFR 10.13 including all native birds commonly found in the United States, with the exception of native resident game birds. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) (16 USC 701-718h), which prohibits the taking of migratory birds, their parts, nests, eggs, and nestlings. Federal agencies are directed to protect migratory birds by integrating bird conservation principles, measures, and practices under the executive order 13186, signed January 10, 2001.

Additional direction comes from the Memorandum of Understanding (MOU) between the BLM and the USFWS, signed April 12, 2010. The MOU develops management objectives and recommendations that avoid or minimize potential impacts identified concerning high priority migratory bird species. The purpose of the MOU is to strengthen migratory bird conservation through enhanced collaboration between the BLM and USFWS, in coordination with state, tribal, and local governments.

A wide variety of migratory birds utilize the project area. They are associated with a variety of habitats, and some species are year-round residents. A compilation of migratory bird species that could utilize the project area and the habitats they require is included in Table 10. Detailed descriptions of the habitat requirements for each species are included in Table 11 (NatureServe, 2011; GBBO, 2005).

Table 10 Migratory Bird Species That Could Utilize the Project Area

Description	Sagebrush	Cliffs/Talus	Pinyon/Juniper	Salt Desert Scrub
American kestrel	X		X	
American robin	X			
American goldfinch				X
Black rosy finch	X	X*		
Black-throated gray warbler			X	
Black-throated sparrow	X			
Blue-gray gnatcatcher			X	
Brewer's sparrow	X			
Brewer's blackbird	X			
Burrowing owl	X			X
Bushtit			X	
Canyon wren		X		
Calliope hummingbird	X			
Clark's nutcracker			X	
Cliff swallow		X		
Common nighthawk			X	X
Common raven		X		
Common poorwill			X	X
Cooper's hawk	X			
Dark-eyed junco			X	
Ferruginous hawk	X	X	X	
Fox sparrow	X			
Gray flycatcher	X		X	
Gray vireo			X	
Green-tailed towhee	X			
Golden eagle		X		

Description	Sagebrush	Cliffs/Talus	Pinyon/Juniper	Salt Desert Scrub
Horned lark	X			
Juniper titmouse			X	
Lark sparrow	X			
Lewis' woodpecker	X			X
Loggerhead shrike	X			X
Northern flicker	X			
Northern goshawk	X	X		
Orange-crowned warbler	X			
Pinyon jay			X	
Prairie falcon	X	X*		
Red-naped sapsucker	X			
Red-shafted flicker	X			
Rock wren		X		
Sage sparrow	X			
Sage thrasher	X			
Say's phoebe		X		
Scott's oriole			X	
Swainson's hawk	X			
Turkey vulture	X	X	X	X
Vesper sparrow	X			
Violet-green swallow		X		
Virginia's warbler			X	
Warbling vireo				
Western bluebird			X	X
White-throated swift		X		
Western meadowlark	X			

*"Obligates" are species that are found only in the habitat type described in the section. [Habitat needed during life cycle even though a significant portion of their life cycle is supported by other habitat types.]

Table 11 Migratory Bird Species and Their Habitat Associations

Common Name	Scientific Name	PIF ¹ “Long term Planning and Responsibility Species”	NVPIF ² “Priority Species”	Habitat Associations
American kestrel	<i>Falco sparverius</i>	No	No	Found in various open and semi-open habitats. Nest in natural holes in trees and abandoned bird nests.
American robin	<i>Turdus migratorius</i>	No	No	Found in mixed, coniferous, and hardwood forests, grasslands, shrublands, and orchards.
American goldfinch	<i>Spinus tristis</i>	No	No	Found in open areas and semi-open habitats.
Black rosy finch	<i>Leucosticte atrata</i>	Yes	Yes	Breeds in alpine areas, usually near rock piles, and cliffs. Winters in open country, including mountain meadows, high deserts, valleys, and plains.
Black-throated gray warbler	<i>Dendroica nigrescens</i>	Yes	Yes	Found mostly in pinyon-juniper woodlands, and less frequently in mountain mahogany and montane riparian woodlands.
Black-throated sparrow	<i>Amphispiza bilineata</i>	No (Management)	No	Found in desert and shrubland/chaparral. Nests are well-concealed at the base of a bush or cactus, on or near the ground.
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>	No	No	Found in deciduous forest, open woodland, second growth, scrub, brushy areas, chaparral, and in open pinyon-juniper woodland. Nests where tracts of brush, scrub, or chaparral are intermixed with taller vegetation
Brewer’s sparrow	<i>Spizella breweri</i>	No (Management)	No	Found closely associated with sagebrush, preferring dense stands broken up with grassy areas. Adults return persistently to the same breeding sites each year. In the northern part of their range, they can be found in habitats such as sub-alpine fir or dwarf birch, or montane pinyon-juniper woodlands.
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	No	No	Found in agricultural fields that have brushy edges, open areas including parks, campgrounds, parking lots, wetlands, and suburban and urban settings.
Burrowing owl	<i>Athene cunicularia</i>	No	Yes	Found in valley bottoms. Nest primarily in abandoned burrows of ground squirrels, badgers, and coyotes.
Bushtit	<i>Psaltiriparus minimus</i>	No	No	Found in woodlands and scrub habitat with scattered trees and shrubs, in brushy streamsides, pinyon-juniper, chaparral and pine-oak associations.
Canyon wren	<i>Catherpes mexicanus</i>	No	No	Found in cliffs, canyons, rocky outcrops, and boulder piles.
Calliope hummingbird	<i>Stellula calliope</i>	Yes	Yes	The Calliope prefers high mountains, and has been seen as high as 11,000 feet. It builds its nests over creeks or over roads next to streams or lakes, usually repairing the previous year's nest or constructing a new one atop the old. This bird usually forages within five feet of the ground.
Clark's nutcracker	<i>Nucifraga columbiana</i>	Yes	No	Found in pinyon-juniper woodlands, and in higher elevation coniferous forests including ponderosa/Jeffrey pine forest, red fir forest, and spruce-fir forests.

Common Name	Scientific Name	PIF ¹ “Long term Planning and Responsibility Species”	NVPIF ² “Priority Species”	Habitat Associations
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	No	No	Found in open canyons and river valleys with rocky cliffs for nesting, under bridges and freeways, farmland, wetlands, prairies, residential areas, road cuts and over open water. Require a source of mud for their nests.
Common nighthawk	<i>Chordeiles minor</i>	No	No	Found in open habitats, from shrub-steppe, grassland, and agricultural fields to cities, clear-cuts, and burns, as long as there are abundant flying insects and open gravel surfaces for nesting.
Common raven	<i>Corvus corax</i>	No	No	Found in dense forests, open sagebrush country, and alpine parklands.
Common poorwill	<i>Phalaenoptilus nuttallii</i>	No	No	Found in valleys and foothills, mixed chaparral-grassland, and pinyon-juniper habitat. Nests in open areas on a bare site.
Cooper's hawk	<i>Accipiter cooperii</i>	No	Yes	Nests in old, tall deciduous tree groves, such as cottonwood stands.
Dark-eyed junco	<i>Junco hyemalis</i>	No	No	Habitats include various sorts of coniferous, mixed, and deciduous forest, forest edge; forest clearings, open woodland. Nests are in scrapes on the ground and usually are concealed by logs, rocks, tree roots, leaves, or ground vegetation.
Ferruginous hawk	<i>Buteo regalis</i>	No	Yes	Found in arid and semiarid grassland regions of North America. The countryside is open, level, or rolling prairies; foothills or middle elevation plateaus largely devoid of trees; and cultivated shelterbelts or riparian corridors. Rocky outcrops, shallow canyons, and gullies may characterize some habitats. These hawks avoid high elevations, forest interiors, narrow canyons, and cliff areas.
Fox sparrow	<i>Passerella iliaca</i>	Yes	No	Breeding fox sparrows can be found at high elevations, especially in wet meadows or in scattered conifers. Wintering fox sparrows inhabit recent clear cuts and tangled brush, especially blackberry thickets.
Gray flycatcher	<i>Empidonax wrightii</i>	Yes	Yes	Found in tall sagebrush and bitterbrush stands and the sagebrush shrubland/pinyon juniper transitional zone. Nest in tall sagebrush or conifers.
Gray vireo	<i>Vireo vicinior</i>	Yes	Yes	Found in open pinyon-juniper woodlands. Nest in west or north facing trees in forked, lateral branches.
Green-tailed towhee	<i>Pipilo chlorurus</i>	Yes	No	Found in mixed-species shrublands of intermediate and higher elevations, including pinyon-juniper woodlands, montane sage steppe, and aspen. Nest on or near the ground under dense shrub cover.
Golden eagle	<i>Aquila chrysaetos</i>	No	Yes	Found in generally open country, in prairies, tundra, open coniferous forest and barren areas, especially in hilly or mountainous regions, nesting on cliff ledges and in trees.
Horned lark	<i>Eremophila alpestris</i>	No	No	Found in open, barren country. Prefers bare ground to short grasses.
Juniper titmouse	<i>Baeolophus ridgwayi</i>	No	Yes	Found in pinyon-juniper woodlands. Nest constructed in natural tree cavity, in old woodpecker hole

Common Name	Scientific Name	PIF ¹ “Long term Planning and Responsibility Species”	NVPIF ² “Priority Species”	Habitat Associations
Lark sparrow	<i>Chondestes grammacus</i>	No	No	Found in short grass, mixed-grass, and tall grass prairie; parkland; sandhills; barrens; old fields; cultivated fields; shrub thickets; woodland edges; shelterbelts; parks; riparian areas; brushy pastures; and overgrazed pastures. Nest on ground near plant or bush or in low tree or bush. May use old nest of mockingbird or thrasher.
Lewis’ woodpecker	<i>Melanerpes lewis</i>	No (Management)	Yes	Found in open pine woodlands, and other areas with scattered trees.
Loggerhead shrike	<i>Lanius ludovicianus</i>	No	Yes	Found in open shrublands, including Mojave scrub, Joshua tree, salt desert scrub, sagebrush, lowland riparian, and montane riparian.
Northern flicker	<i>Colaptes auratus</i>	No	No	Found in open forest, both deciduous and coniferous, open woodland, open situations with scattered trees and snags, riparian woodland, pine-oak association, parks. Nests in dead tree trunk, or stump, or dead top of live tree; sometimes nests in wooden pole, building or earth bank.
Northern goshawk	<i>Accipiter gentilis</i>	No	Yes	Found in various forest types, especially mature forest
Orange-crowned warbler	<i>Vermivora celata</i>	No	Yes	Breeds in streamside thickets and woodland groves with moderately dense foliage, and in understory of forests and chaparral. Winters in thickets and shrubs along streams, forests, weedy fields, and dense tangles of shrubs and vines.
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>	No (Management)	Yes	Found almost exclusively in pinyon-juniper and occasionally wander into sagebrush and Joshua tree.
Plain titmouse	<i>Baeolophus inornatus</i>	No	Yes	Found in warm, dry woodlands at low to mid-elevations.
Prairie falcon	<i>Falco mexicanus</i>	No	Yes	Forages in sagebrush, salt desert, wet meadows, and some agricultural areas; nest in cliff ledges with overhead cover.
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	Yes	Yes	Breeds in deciduous and mixed montane forests, often associated with willows and aspens. Winters in diverse habitats, including orchards and pine-oak woodlands.
Red-shafted flicker	<i>Colaptes auratus</i>	No	No	Found in open habitats near trees, including woodlands, edges, yards, and parks. In the West you can find them in mountain forests all the way up to tree line.
Rock wren	<i>Salpinctes obsoletus</i>	No	No	Found in bare rock, talus, scree, on cliffs, and in the desert and shrubland/chaparral. Nest in gopher burrows, rock crevices, cavities under rocks, adobe buildings, etc.
Sage grouse	<i>Centrocercus urophasianus</i>	No (Immediate Action)	Yes	Found in foothills, plains, and mountain slopes where sagebrush is present.
Sage sparrow	<i>Amphispiza belli</i>	Yes	Yes	Found in big sagebrush and associated shrub species. Nest close to and on the ground under shrubs or in grass tufts.

Common Name	Scientific Name	PIF ¹ “Long term Planning and Responsibility Species”	NVPIF ² “Priority Species”	Habitat Associations
Sage thrasher	<i>Oreoscoptes montanus</i>	Yes	Yes	Found in big sagebrush stands, in greasewood flats, and montane sagebrush steppe. Nest on the ground or in the shrub canopy, depending on greatest overhead cover.
Say’s Phoebe	<i>Sayornis saya</i>	No	No	Found in open country, sagebrush, badlands, dry barren foothills, canyons, borders of deserts, and ranches. Often around buildings. Avoids watercourses and heavy forest.
Scott’s oriole	<i>Icterus parisorum</i>	Yes	Yes	Desert-facing slopes of mountains and foothills, where yuccas are common.
Swainson's hawk	<i>Buteo swainsoni</i>	No (Management)	Yes	Found in open country such as grassland, shrubland, and agricultural areas.
Turkey vulture	<i>Cathartes aura</i>	No	No	Found in forested and open situations, from lowlands to mountains.
Vesper sparrow	<i>Pooecetes gramineus</i>	No	Yes	Found in sagebrush steppe and dry-grassland associated species during breeding. Nest on the ground under vegetative cover.
Virginia’s warbler	<i>Oreothlypis virginiae</i>	Yes	Yes	Found in steep-sloped, xeric, pinyon-juniper and oak woodland–dominated habitat,
Warbling vireo	<i>Vireo gilvus</i>	No	No	Found in habitat that is open deciduous or shrubby mixed woodlands, especially where large trees are present. Warbling Vireos are often found in willow or cottonwood stands along rivers. They are not found in large, unbroken tracts of woods, but prefer smaller patches and edges, including logged areas,
Western bluebird	<i>Sialia mexicana</i>	No	Yes	Open coniferous and deciduous woodlands, wooded riparian areas, grasslands, farmlands, and edge and burned areas.
White-throated swift	<i>Aeronautes saxatalis</i>	No	No	Found in rocky cliffs and canyons
Western meadowlark	<i>Sturnella neglecta</i>	No	No	Found in grasslands, savanna, cultivated fields, and pastures. Summers in grasslands and valleys; ranges up to higher elevations in foothills and open mountain areas. Female builds nest on dry ground.
Wilson’s warbler	<i>Wilsonia pusilla</i>	No	Yes	Breeds in shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone. Winters in tropical evergreen and deciduous forest, cloud forest, pine-oak forest, and forest edge habitat; also found in mangrove undergrowth, secondary growth, thorn-scrub, dry washes, riparian gallery forest, mixed forests, brushy fields, and plantations.

¹Partners in Flight North American Landbird Conservation Plan (Rich et al., 2004)

²Nevada Partners in Flight (Neel, 1999)

3.2.7.2 Environmental Consequences

Proposed Action

The Proposed Action would affect 70.69 acres of potential migratory bird habitat. Exploration activities could potentially result in the destruction of active nests, disturb the breeding behavior of migratory bird species, or increase the potential for vehicle mortality. EPMs discussed in Section 2.2.13 state that Pilot Gold would conduct migratory bird nest surveys prior to surface disturbance during the avian breeding season (March 15 through July 31) and would observe prudent speed limits to reduce the potential for wildlife-vehicle collisions. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) would be delineated in coordination with NDOW and the buffer area avoided to prevent destruction or disturbance to birds or nests until they are no longer active. The Proposed Action would have minimal impacts to migratory birds.

No Action Alternative

Under the No Action Alternative, ongoing mineral exploration activities currently permitted in the project area would continue to occur, which would result in the temporary loss of up to five acres of migratory bird habitat associated with Notice-level activities.

3.2.8 Native American Religious Concerns

3.2.8.1 Affected Environment

Before making decisions or approving actions affecting public lands, the BLM must determine whether Native American interests would be affected, observe pertinent information gathering and consultation requirements, and document how this was done. Native American consultation is the process of identifying and seeking input from appropriate Native American governing bodies, community groups, and individuals. The consideration of their interests is a necessary and integral part of the BLM's decision making process.

The BLM conducts periodic Native American consultations with the Tribes. The project was coordinated with 14 various Tribes via letters sent by United States Postal Service mail on August 27, 2012. The Goshute Tribe responded to BLM's letter requesting additional information for this project.

3.2.8.2 Environmental Consequences

Proposed Action

No issues concerning Native American traditional values such as religion, spirituality, or sacredness were brought forward during the consultation efforts. Consultation would remain an on-going process throughout the life of the project.

The effects of federal undertakings on properties of traditional religious and cultural importance to contemporary Native Americans are given consideration under the provisions of Executive Order 13007, the American Indian Religious Freedom Act, and recent amendments to the NHPA. As amended, the NHPA now integrates Native American tribes into the Section 106 compliance process.

No concerns regarding Native American traditional values were expressed by the Tribes.

No Action Alternative

No effects to Native American Religious Concerns would be expected as a result of the No Action Alternative.

3.2.9 Paleontological Resources

3.2.9.1 Affected Environment

Geological formations exposed in the project area include the following: an unnamed Middle Cambrian limestone; the Middle Cambrian Lamb Dolomite, Big Horse Limestone, and Candland Shale; the Upper Cambrian Notch Peak Limestone and Notch Peak Dolomite; and the Ordovician Pogonip Group limestone, shale, and dolomite (Mine Development Associates Mine Engineering Services, 2012). In the Geology of Elko County (Coats, 1987), a lack of fossils is noted within Kinsley Mountains dolomite (page 21) and an argillaceous and sandy limestone (page 40). However, in the Kinsley mining district, a 1,250-foot-thick section of the Ferguson Mountain Formation is described which consists of argillaceous limestone with chert present as beds, nodules, and stringers (Coats, 1987 page 37). Fusulinids, corals, and bryozoans are common (Coats, 1987 page 37).

3.2.9.2 Environmental Consequences

Proposed Action

Based on the review of the geologic setting of the project area (Section 3.2.4), significant vertebrate fossils are not abundant within the geological formations mapped in the project area. Additionally, there would appear to be limited potential for preserved paleontological resources due to the extensive hydrothermal alteration, folding, and faulting mapped in the project area. The Proposed Action would not result in impacts to paleontological resources and, therefore, this resource is not further evaluated in this EA.

No Action Alternative

No effects to paleontological resources would be expected as a result of the No Action Alternative.

3.2.10 Range Resources

3.2.10.1 Affected Environment

The project area lies within the Boone Springs and Antelope Valley grazing allotments. The Boone Springs Allotment has a current carrying capacity of 2,947 animal unit months (AUMs). The allotment consists of 78,454 total acres with 566 acres consisting of private property. Range improvements are present in this allotment with the addition of an enclosure and developed water wells. U.S. Highway 93-Alternate divides this allotment into two separate use areas. Use Area A is located on the west side of the highway and has an active grazing period from March 1 to March 31 with a carrying capacity of 411 AUMs. Use Area B is located on the east side of the highway and has an active grazing period from November 1 to February 28 with a carrying capacity of 1,591 AUMs. The allotment is currently grazed in a three-year cycle. This cycle consists of one year of grazing in Use Area A and the following two years of grazing in Use Area B. The project area lies within the eastern border of Use Area B. The management status code of this grazing allotment is categorized “M” for “maintain.” Range conditions in this category should be maintained or improved.

The Antelope Valley Allotment has a current carrying capacity of 5,376 AUMs. This allotment consists of 46,110 total acres with 160 acres consisting of private property. Range improvements are present in this allotment with the addition of some fencing, a water pipeline, and a water trough. This allotment is divided into the following: South Pasture Ely District; North Pasture Ely District; and Antelope Valley Elko District. The allotment is currently grazed in a three-year cycle. This grazing schedule is shown in Table 12 and the grazing cycle consists of one year of rest for each area within the allotment. The management status code of this grazing allotment is categorized “M” for “maintain.” Range conditions in this category should be maintained or improved.

Table 12 Current Grazing Schedules for the Use Areas in the Antelope Valley Grazing Allotment

Grazing Fee Year*	South Pasture Ely District	North Pasture Ely District	Antelope Valley Elko District
2013	REST	11/01 to 01/15 03/01 to 03/31	01/16 to 02/28 04/01 to 05/31
2014	01/16 to 02/28 04/01 to 05/31	REST	11/01 to 01/15 03/01 to 03/31
2015	11/01 to 01/15 03/01 to 03/31	01/16 to 02/28 04/01 to 05/31	REST
2016	REPEAT 3 YEAR GRAZING CYCLE		

3.2.10.2 Environmental Consequences

Proposed Action

Surface disturbance from the Proposed Action would be dispersed throughout the project area and grazing could continue during project-related activities. Direct impacts including a loss of AUMs would occur during the life of the project. Approximately half the disturbance associated with the project would be located within the Boone Springs Allotment and the other half would occur within the Antelope Valley Allotment, which would result in an approximate loss of two AUMs in the Boone Springs Allotment and five AUMs in the Antelope Valley Allotment. The majority of the proposed disturbance would occur in rocky areas not well suited for livestock grazing; therefore, impacts to grazing may be less than this calculated loss of AUMs.

Indirect effects would occur as a result of short-term loss of forage from surface disturbance; however, long-term benefits would occur with reclamation as additional herbaceous vegetation would be available for grazing.

No Action Alternative

Under the No Action Alternative, Notice-level exploration activities would continue to occur and up to five acres of surface disturbance would occur. The authorized disturbance would result in an approximate loss of less than one AUM from the Boone Springs Allotment and less than one AUM from the Antelope Valley Allotment for the life of the project.

3.2.11 Recreation

3.2.11.1 Affected Environment

Recreational use in and around the project area is generally light. There are no developed recreation facilities or sites in the project area. Recreational opportunities are limited to dispersed recreation associated mainly with wildlife hunting and viewing (elk, deer, antelope) as well as OHV use (BLM, 2012c). It is estimated that activities related to wildlife and OHV use account for 99 percent of the total activities occurring in and around the project area (Potts, 2012). Additional recreational opportunities in and around the project area include rockhounding/mineral collection, cross country skiing/snow play, photography, pine nut gathering, Christmas tree cutting, viewing historic and cultural sites, hiking, four-wheel driving, and camping (BLM, 2012b). The area is designated “open” to OHV use under the Wells RMP (BLM, 1985).

Dispersed recreation occurs annually within the Kinsley Mountain Range and is estimated at 200 visitor days per year (Potts, 2012). The project area encompasses less than 50 percent of the Kinsley Mountains; therefore, visitor day use within the project area is estimated to be relatively less than 200 visitor days annually.

It is plausible to estimate that the current OHV use is highest in the fall during hunting season and pine nut harvest, with only light use occurring during the late spring and summer months. Most visitors are from local communities of Elko, Wells, and Wendover. The physical and social setting of the area is generally backcountry with a naturally appearing landscape.

3.2.11.2 Environmental Consequences

Proposed Action

The Proposed Action, which includes approximately 70.69 acres of surface disturbance, would have a temporary impact to recreational opportunities because localized project activities could temporarily block access on roads to and through the project area. Project-related activities would occur over a 10-year period and would be dispersed throughout the project area. Exploration activities in the project area would not restrict visitor use in that specific area. Improved access to the general area by construction of the exploration roads would be an indirect, beneficial impact to hunters and other recreationists as well as for recreational target shooting. Road improvements could increase OHV activity in the area. A temporary change in wildlife movement could occur during active exploration (i.e., exploration drilling and associated traffic). Habitat for big game in the project area is similar to habitat available surrounding the project area. Species of big game located in the project area are similar to species found throughout the region. Wildlife hunters would likely hunt in nearby areas during periods of active operations if opportunities are temporarily limited in the project area. The Proposed Action would result in minor impacts to recreation during the project. Hunting and OHV experiences would be altered during active exploration; however, as the project moves to different phases and areas, recreational opportunities could improve as access improves. In the long-term, activities such as hunting, OHV riding, recreational target shooting, as well as other similar activities, would remain at current use levels or possibly increase as access to the area remains the same or improves. These impacts are expected to last until reclamation and revegetation are complete. Therefore, the impacts to recreation from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Under the No Action Alternative, Notice-level surface disturbance would be limited to five acres. This minimizes access to the project area is because many of the existing roads have been closed and reclaimed. Temporary impacts would still occur from drill rigs blocking existing roads; however, impacts to wildlife movement would be minimal.

3.2.12 Social Values and Economics

3.2.12.1 Affected Environment

The project area is located in Elko County. Elko, Carlin, Wells, and West Wendover, and the unincorporated communities of Spring Creek, Jackpot, Montello, and Mountain City are within

an area designated as Micropolitan Statistical Area that encompasses Elko and Eureka counties. This designation is for communities of at least 10,000 to 49,999 people, distant from a large city, and have proportionately few residents commuting outside the area. Elko is the largest urban area and center of commerce and government in northeastern and north-central Nevada. The town serves as the county seat for Elko County.

Elko County has increased in population from 46,942 in 2000 to 48,818 in 2010, a four percent increase (U.S. Census, 2010). Elko experienced growth of 9.5 percent in population from 16,708 in 2000 to 18,297 in 2010. Wells and West Wendover are the closest cities to the project area and they had decreases in population of 4 percent and 6.5 percent, respectively, from 2000 to 2010. The current population in Wells is 1,292 and 4,410 in West Wendover. The population, number of housing units, and median incomes are shown in Table 13.

The three largest economic drivers in Elko County are gold mining, ranching, and tourism. Elko is considered the capital of Nevada's gold belt. Mining has been and continues to be important to the economic well-being of Nevada. Nevada leads the nation in production of gold, silver, and barite. The gold industry has caused Elko to have a boom and bust economy, consistent with the rise and decline in gold prices. The latest gold boom started in the late 1990s.

Table 13 2010 Population and Income for the Cities of Elko, Wells, and West Wendover

Description	Elko	Wells	West Wendover
Population	18,297	1,292	4,410
Household units	8,505	633	1,363
Median household income	67,097	35,870	34,116
Per capita income	26,191	16,835	12,013

Nevada demographics (U.S. Census, 2010)

Metal ore mining is important to the economy in Elko County. Employment and income in the metal ore mining in Elko Micropolitan area and state of Nevada are shown in Table 14. Metal ore mining amounts to approximately one percent of the labor force in Nevada and approximately 6.2 percent of the labor force in the Elko Micropolitan area. Approximately 12.5 percent of the people within the state that are engaged in metal ore mining are located in the Elko Micropolitan area. The mean annual wage for persons employed in the metal ore industry (\$93,652) is approximately twice as great than the mean annual wage for persons employed in all other industries (\$46,176). In 2011, the economy in Nevada had started to recover from the deep recession of 2007. Economic growth is expected to continue an upward trend at a mild rate of 1.1 percent through the third quarter of 2013. Mining companies continue adding employment at the same wage level, which indicates the full employment level in this industry has not been

reached. The addition of 2,000 jobs in this industry equates to a large growth of 5.8 percent (Nevada Department of Employment, 2012).

Table 14 Employment and Wages in Elko and Nevada

Description	Elko Micropolitan Area	State of Nevada
Labor Force – All Industries	22,105	1,113,236
Labor Force – Metal Ore Mining	1,377	11,041
Annual Median Wage – All Industries	46,176	32,650
Annual Median Wage – Metal Ore Mining	93,652	94,432
Total Wages – All Industries		255,121,346
Total Wages – Metal Ore Mining		31,199,148

Wells and West Wendover are the closest cities to the project that provide a variety of services and lodging. Both Wells and West Wendover provide restaurants, gas stations, stores, and lodging options. West Wendover is much larger than Wells and provides a greater variety of these services than Wells. Employees of mining and exploration companies do not necessarily live in the closest community to their employment nor do they live in the local governmental unit, which receives increased tax revenues as a result of the mining activity.

A drilling crew normally consists of the drill operator and one or two helpers. The drilling crews would travel to the site in four-wheel drive vehicles or a van operated by the drilling company. Up to three to five crews would operate in the project area at any given time. The drilling program is expected to last for an estimated 10 years or for the life of the project.

3.2.12.2 Environmental Consequences

Proposed Action

A drilling crew of 12 to 15 people is not expected to result in any new demands on public services that may be related to an increased number of workers. Adequate housing may remain a constraint due to the increased number of employees coming into Elko County and limited housing in Wells and West Wendover. However, as stated above, many of the employees in the mining and exploration companies do not necessarily live in the closest community to their employment. Workers may decide to live in any of the three communities of Elko, Wells, or West Wendover, which would minimize housing demand in a single locale. Impacts to the project would be beneficial to the local communities during the life of the project as a result of increased spending for food, gas, entertainment, and possibly temporary housing. The direct effects are considered temporary and no indirect effects were identified for this project.

No Action Alternative

Social values and economics would remain the same as current conditions under the No Action Alternative.

3.2.13 Soils

3.2.13.1 Affected Environment

Soils in the project area have been mapped by the Natural Resources Conservation Service and are described in the Soil Survey of Elko County, Nevada, Southeast Part (NRCS, 2002). The soils in the project area are typical of the north-south trending mountain ranges and valleys of the north-central Great Basin and are located on geographical features including hills, fan remnants, and mountains. Slopes vary from gentle to moderate sloping on valley fans to steep to very steep on mountain sides. Soils are generally shallow and well drained. The eight soil associations identified within the project area include the following:

- Map Unit 69 Zimbob-Hyzen-Rock outcrop association;
- Map Unit 101 Toano-Linoyer association;
- Map Unit 421 Palinor-Automal association;
- Map Unit 426 Palinor-Automal-Wintermute association;
- Map Unit 575 Pookaloo-Cavehill-Rock outcrop association;
- Map Unit 691 Tarnach-Wesfil association;
- Map Unit 900 Zerk-Automal-Linoyer association; and
- Map Unit 1430 Pookaloo-Tecomar-Rock outcrop association.

The Zimbob-Hyzen-Rock outcrop association composes approximately 7.8 percent of the project area in the vicinity of the mine and Mine Haul Road. This association occurs in elevations ranging from 5,800 to 7,700 feet AMSL within the 11- to 14-inch precipitation zone. These soils occur on hills with slopes ranging from 15 to 50 percent. The soil association consists of Residuum and colluvium derived from limestone and dolomite. Soils are well drained and available water capacity is very low.

The Toano-Linoyer association composes less than one percent of the project area in the vicinity of Well Site 2. This association occurs in elevations ranging from 4,000 to 5,000 feet AMSL within the six- to nine-inch precipitation zone. The soils occur on alluvial flats, fan skirts, inset fans and stream terraces on slopes less than eight percent. The soil association consists of alluvium derived from sedimentary rocks, loess, and volcanic ash. Soils are moderately deep and well drained.

The Palinor-Automal association composes approximately 0.3 percent of the project area in the vicinity of Kinsley Mountain Mine Road and Well Site 1. This association occurs in elevations

ranging from 5,700 to 7,000 feet AMSL within the seven- to nine-inch precipitation zone. These soils occur on fan remnants with slopes ranging from two to 15 percent. The soil association consists of Alluvium derived from limestone and dolomite. Soils are well drained and available water capacity is very low.

The Palinor-Automal-Wintermute association composes approximately 35.7 percent of the project area along the foot slopes on the east and west side of Kinsley Mountain. This association occurs in elevations ranging from 5,200 to 6,800 feet AMSL within the six- to nine-inch precipitation zone. These soils occur on fan remnants with slopes ranging from four to 15 percent. The soil association consists of Alluvium derived from limestone, dolomite, and mixed rocks. Soils are well drained and available water capacity is low to very low.

The Pookaloo-Cavehill-Rock outcrop association composes approximately 33.8 percent of the project area along the west ridge line of Kinsley Mountain and southern east ridgeline of Kinsley Mountain in the project area. This association occurs in elevations ranging from 5,400 to 8,800 feet AMSL within the 11- to 15-inch precipitation zone. These soils occur on mountains with slopes ranging from 15 to 50 percent. The soil association consists of residuum and colluvium derived from limestone and dolomite. Soils are well drained and available water capacity is low to very low.

The Tarnach-Wesfil association composes approximately 0.5 percent of the project area in the vicinity of Kinsley Draw and Well Site 3. This association occurs in elevations ranging from 5,800 to 7,200 feet AMSL within the seven- to 10-inch precipitation zone. These soils occur on hills with slopes ranging from eight to 50 percent. The association consists of residuum and colluviums derived from volcanic rock. Soils are well drained and available water capacity is low to very low.

The Zerk-Automal-Linoyer association composes approximately 0.3 percent of the project area in the vicinity of the gravel pit. This association occurs in elevations ranging from 5,600 to 5,900 feet AMSL and within the six- to nine-inch precipitation zone. These soils occur on stream terraces with slopes from two to eight percent. The soil association consists of alluvium derived from mixed rocks. Soils are well drained and available water capacity is high.

The Pookaloo-Tecomar-Rock outcrop association composes approximately 15.3 percent of the project area along the northeast ridge line and the northwest foothills of Kinsley Mountain. This association occurs in elevations ranging from 5,800 to 8,300 feet AMSL within the 11- to 13-inch precipitation zone. These soils occur on mountains with slopes ranging from 15 to 50 percent. The soil association consists of residuum and colluviums derived from limestone and dolomite. Soils are well drained and available water capacity is very low.

The soil hazard for erosion and fugitive dust and soil suitability for reclamation and road construction were obtained from the Web Soil Survey for land management and are presented in Table 15.

Table 15 Soil Hazard and Suitability

Soil Associations	Web Soil Survey Land Management			
	Erosion Hazard	Fugitive Dust Resistance	Reclamation Material	Road Construction Suitability
Zimbob-Hyzen-Rock outcrop association	Severe	Low	Poor	Poor
Toano-Linoyer association	Slight	Low	Poor	Moderate
Palinor-Automal association	Moderate	Moderate	Poor	Moderate
Palinor-Automal-Wintermute association	Moderate	Moderate	Poor	Moderate
Pookaloo-Cavehill-Rock outcrop association	Severe	Low	Poor	Poor
Tarnach-Wesfil association	Severe	Moderate	Poor	Poor
Zerk-Automal-Linoyer association	Moderate	Moderate	Fair	Moderate
Pookaloo-Tecomar-Rock outcrop association	Severe	Low	Poor	Poor

The conditions of soil associations within the project area are a result of both natural processes and human-related activities. Overland travel and livestock grazing may have affected the surface soil properties and function due to soil compaction, reduced vegetation cover and exposure to wind and water erosion. Mining and road construction activities and salvage of the upper soil for plant growth media can result in a change in the soil physical and chemical properties that would affect reclamation activities such as structure, texture, intermixing of rock fragments, soil hydraulics and loss of organic surface material. Extreme weather events may have affected the soil processes from exposure to wind and water.

3.2.13.2 Environmental Consequences

Proposed Action

The Proposed Action would result in up to 70.69 acres of surface disturbance. Approximately 41.78 acres of this disturbance would be for road construction and maintenance of existing roads, 0.33 acre for overland travel, 17.89 acres for drill pads and sumps, 0.69 acre for well sites, and 10 acres for the gravel pit (Table 1).

Approximately 14.22 miles of access routes would be constructed within the project to access the drill hole locations. Travel would be at low speeds and the frequency of use would depend upon the drill site location and the number of drill sites connected along a single route. Routes would be constructed with a 12-foot travelway and would generally follow the topography of the land

whenever possible due to the steep slopes. Balanced cut and fill construction would be used to the extent practicable to minimize the exposed cut slopes and volume of fill material. The proposed area of soil disturbance accounts for the angle of the slope in which each road segment would be constructed and the corresponding width of disturbance for the cut and fill slopes as shown in Table 16. Some of the access routes would traverse up the slopes for short distances and the grades could exceed 30 percent or more. Waterbars would be installed as needed on the steep grades to control soil erosion.

Table 16 New Road Construction for Exploration Activities

Road Category	Percent Slope	Travelway and Cut/Fill (approximate width)	Length (miles)
Level to gentle slopes	0 - 6%	12 feet	0.58
Moderately sloping to strongly sloping	7 - 15%	14.5 feet	1.74
Moderately steep to steep slopes	16- 35%	18.0 feet	6.77
Steep to very steep slopes	Greater than 36%	22 to 24 feet	5.13
Total			14.22

Construction of the access roads and drill pads would be primarily affected by slope on the east and west mountain sides and by stoniness in the east-facing slopes of Kinsley Mountain in the northern portion of the project. The level of maintenance and BMPs to control soil erosion would increase as the percent of slope increases.

Level to gentle slopes, 0-6 percent

Access roads would require very little if any road improvements and overland travel would occur where feasible. Soil constraints are considered moderate for soil erosion and road construction. Occasional maintenance may be required to maintain the road and to control soil erosion before it becomes a problem.

Moderately sloping to strongly sloping, 7-15 percent

Soil constraints on these steeper slopes are considered moderate to severe for road construction and soil erosion. Proper drainage would be established to remove water from the travelway as quickly as possible to prevent runoff from forming rills in the roadway or along the road side. Periodic maintenance is expected to prevent washboarding and would reduce negative impacts of erosion and deposition of soils within and adjacent to disturbed areas. Waterbars may be used along the route to control surface runoff and would be spaced to fit the site conditions. BMPs such as silt fences would be used to control sedimentation around the drill pads.

Moderate steep to steep slopes, 16-35 percent

Soil constraints on these steeper slopes are considered severe for road construction and soil erosion. Proper drainage would be established to remove water from the travelway as quickly as

possible to prevent runoff from forming rills in the roadway or along the road side. Periodic maintenance is expected to prevent washboarding and control erosion before it becomes a problem. Waterbars may be used along the route to control surface runoff and would be spaced to fit the site conditions. BMPs such as silt fences would be used to control sedimentation from the drill pads.

Steep and very steep slopes, greater than 36 percent

Soil constraints on these steep slopes are considered severe for road construction and erosion. Excavation requirements are expected to be greater due to the large volume of soil that would be worked for cut and fill slopes. The potential for greater soil erosion is expected due to steep slopes and more extensive erosion control measures would be required. Waterbars would be installed on steep grades to control runoff down the roadway. Maintenance is expected to occur more frequently to control soil erosion and washboarding. Waterbars would be spaced to fit the site conditions.

Fugitive dust is created by the erosion and breakdown of soil particles into very fine material that can be suspended in the air. These fine particles can be lifted into the air by wind and vehicle traffic. The soil properties that affect fugitive dust are the size of surface soil particles, rock fragment content, calcium carbonate equivalent, and aggregate stability. Vehicle road traffic can pulverize soil particles and weak rock fragments into very fine particles known as “bug dust”. The soils on the Kinsley Mountain Mine Road, Well Site 1, and Well Site 2 have moderate resistance to forming fugitive dust. The soils on Kinsley Mountain and Kinsley Draw have a low resistance to forming fugitive dust. Fugitive dust is expected to be more common on these roads than on the main access roads to the project.

Approximately 18.3 miles of access roads would be used for access to the project. The Kinsley Mountain Mine Road and Kinsley Draw Road are located on nearly level to gentle slopes. Traffic would be much greater and continuous on these access routes compared to exploration roads. Maintenance would be conducted on an as-needed basis to control soil erosion, rutting when the soil is wet, and bug dust during dry conditions. Use of water trucks, prudent speed controls, and other BMPs are expected to minimize the production of fugitive dust on the main access roads. Gravel may be used to maintain the travelway as was done in the past to maintain suitable road conditions on the Kinsley Draw Road. Gravel is not expected to be used on the Kinsley Mountain Mine Road or any of the exploration routes. Water may be used for dust control on the Kinsley Mountain Mine Road and Mine Haul Road from the project to the well site where traffic associated with the project would be the highest.

Approximately 17.89 acres of soil disturbance would occur in the project area for construction of drill sites and sumps, 41.78 acres for exploration roads, 10.69 acres for construction of the well sites and the gravel pit, and 0.33 acre for overland travel totaling 70.69 acres.

Establishing a natural plant cover to an ecological site condition similar to what existed prior to soil disturbance is estimated to take several years. Revegetation efforts are limited in the project area by low amounts of precipitation and shallow depth of surface soil that would be salvaged for growth media. The road surface would be ripped after its use to relieve soil compaction and to leave a very rough surface to control surface runoff. Soil capable of serving as a growth media would be salvaged and placed uphill of the area of disturbance so that it would not be mixed with runoff from cut material. The salvaged growth media would be brought back over the top of the soil disturbance to approximate original contour. Contouring and seeding the disturbed areas as soon as they are no longer needed would minimize long-term impacts associated with the project.

No Action Alternative

Under the No Action Alternative, Notice-level exploration activities would continue to occur and up to five acres of surface disturbance would occur. The authorized disturbance would result in minimal impacts to soil erosion and stability.

3.2.14 Threatened, Endangered, Candidate, Sensitive, and Special Status Species

3.2.14.1 Affected Environment

The BLM's policy for management of special status species is in the BLM Manual Section 6840 (BLM, 2008c). Special status species include the following:

- Federally Threatened or Endangered Species: Any species that the USFWS has listed as an endangered or threatened species under the ESA throughout all or a significant portion of its range;
- Proposed Threatened or Endangered Species: Any species that the USFWS has proposed for listing as a federally endangered or threatened species under the ESA;
- Candidate Species: Plant and animal taxa that are under consideration for possible listing as threatened or endangered under the ESA;
- BLM Sensitive Species: 1) Species that are currently under status review by the USFWS; 2) Species whose numbers are declining so rapidly that federal listing may become necessary; 3) Species with typically small and widely dispersed populations; or 4) Species that inhabit ecological refugia or other specialized or unique habitats; and

- State of Nevada Listed Species: State-protected animals that have been determined to meet BLM's Manual 6840 policy definition.

Nevada BLM policy is to provide State of Nevada listed species and Nevada BLM sensitive species with the same level of protection as is provided to candidate species in BLM Manual 6840.06C. Per wording for Table IIa in BLM Information Bulletin No. NV-2003-097, Nevada protected animals that meet BLM's 6840 policy definition are those species of animals occurring on BLM-managed lands in Nevada that are: (1) 'protected' under authority of the NAC; (2) have been determined to meet BLM's policy definition of "listing by a state in a category implying potential endangerment or extinction;" and (3) are not already included as federally listed, proposed, or candidate species.

The entire project area is situated on the southern flank of the Kinsley Mountains and contains ridges, cliffs, rocky outcrops, and ephemeral drainages. No permanent source of water exists in the project area. Kinsley Spring, located approximately 2.1 miles southwest of the project area, is the nearest natural perennial water source, which provides a dependable year-round water source for wildlife (USGS, 2012). A wildlife guzzler is located less than one mile east of the project area, which acts as an additional water source for wildlife. The ephemeral drainages within the project area carry water during snowmelt and rain events.

The project area contains six key habitats for wildlife as defined in Nevada's Wildlife Action Plan including: sagebrush; lower montane woodlands; intermountain conifer forests and woodlands; cliffs and canyons; caves and mines; and barren landscapes (WAPT, 2006).

Sagebrush provides nesting cover and structure, protection from predators, thermal cover, and foraging for wildlife. Lower montane woodlands provide nesting cover, structure, cavities, protection from predators, thermal cover, and foraging for wildlife. Intermountain conifer forests and woodlands provide nesting cover, structure, cavities, roosting, protection from predators, thermal cover, and foraging for wildlife. Cliffs and canyons provide structure for ledges and crevices for nesting, roosting, or denning, protection from predators, protection from the summer sun, and areas for foraging. Barren landscapes such as rocky slopes and talus are frequently found under cliffs and rocky outcrops which provide foraging, protection from predators, thermal cover, and food storage (WAPT, 2006). There is also an artificial habitat that has been created from past mining development that occurs within the project area in the form of artificial cave systems from old adits and shafts that provide roosting cover, protection from predators, thermal cover and foraging opportunities.

Federally-Listed Species

No federally-listed plant species are known to occur in the project area; therefore, federally-listed plant species are not addressed further in this EA. No federally-listed threatened or endangered wildlife species occur within the project area. One federal candidate wildlife species, greater sage-grouse (*Centrocercus urophasianus*), has the potential to occur in the project area. Greater sage-grouse is also a BLM sensitive species.

Greater Sage-Grouse

Greater sage-grouse habitat distribution data has been kept historically by NDOW. According to NDOW habitat distribution maps, the closest greater sage-grouse winter distribution as well as nesting habitat is approximately two miles south of the project area and the closest greater sage-grouse summer distribution is located approximately one mile southwest of the project area (NDOW, 2012).

Greater sage-grouse are found throughout Nevada in sagebrush-dominated habitats. Sagebrush is a key component of greater sage-grouse habitat on a year-long basis (USFWS, 2006). Sagebrush provides forage, nesting, security, and thermal cover for this species. Moist areas that provide succulent herbaceous vegetation during the summer months are used extensively as brood rearing habitat. Open, often elevated areas within sagebrush habitats usually serve as breeding areas (strutting grounds or lek sites) (USFWS, 2006). Greater sage-grouse males begin displaying on leks in March, and hens typically begin nesting in April and May. During winter, greater sage-grouse often occupy wind exposed areas where sagebrush is available (e.g., drainages, southern or western slopes, or exposed ridges). The nearest lek site is located four miles south-southwest of the southwest corner of the project boundary.

The project area is not located within historical greater sage-grouse habitat, nesting habitat, brood rearing habitat, nor is it located between greater sage-grouse habitat. Potential greater sage-grouse habitat in the survey area includes the Great Basin Xeric Mixed Sagebrush Shrubland vegetation community on the western side of the project area and around Well Sites 1 and 2 and the gravel pit on the eastern side of the project area. Given the discontinuity of the Great Basin Xeric Mixed Sagebrush Shrubland and the lack of quality habitat in the project area, it is unlikely greater sage-grouse would use the project area. Focused surveys for the greater sage-grouse were conducted in June 2012. Sagebrush-dominated habitats were searched and no greater sage-grouse and/or sign of the species (e.g., tracks, pellets, feathers, tar, nests, egg shells, etc.) were observed during the surveys. Detailed accounts of special status species and their potential to occur are discussed in Appendix D.

BLM Special Status Species

No BLM sensitive plant species are identified as occurring within the project area; therefore, BLM special status plant species are not addressed further in this EA. The following special status species were observed in the project area during surveys: Brewer's sparrow (*Spizella breweri*); loggerhead shrike (*Lanius ludovicianus*); pinyon jay (*Gymnorhinus cyanocephalus*); ferruginous hawk (*Buteo regalis*); prairie falcon (*Falco mexicanus*); golden eagle (*Aquila chrysaetos*); Mexican free-tailed bat (*Tadarida brasiliensis*); little brown bat (*Myotis lucifugus*); long-legged myotis (*Myotis volans*); pallid bat (*Antrozous pallidus*); silver-haired bat (*Lasionycteris noctivagans*); western pipistrelle bat (*Parastrellus hesperus*); western small-footed myotis (*Myotis ciliolabrum*); and Yuma myotis (*Myotis yumanensis*). Additionally, habitat for the following special status species were observed in the project area during surveys: bald eagle (*Haliaeetus leucocephalus*); western burrowing owl (*Athene cunicularia hypugaea*); northern goshawk (*Accipiter gentilis*); Swainson's hawk (*Buteo swainsoni*); big brown bat (*Eptesicus fuscus*); California myotis (*Myotis californicus*); spotted bat (*Euderma maculatum*); Townsend's big-eared bat (*Eptesicus fuscus*); and pygmy rabbit (*Brachylagus idahoensis*). Detailed accounts of special status species and their potential to occur are discussed in Appendix D.

3.2.14.2 Environmental Consequences

Proposed Action

The Proposed Action would result in impacts to approximately 61.23 acres of foraging, nesting, and roosting habitat for BLM special status species over the life of the project.

Construction of roads and drill pads and the operation of drilling equipment could cause special status wildlife species to avoid the area or change their pattern of movement due to the presence of humans and activities that create noise and dust. Special status species, nesting, roosting, and breeding within the project area could be affected during the life of the project. Foraging activities could potentially be affected by the operation of up to three drill rigs operating at any one time. Impacts to special status species are expected from loss of habitat until reclamation is complete and vegetation is reestablished.

Federally-Listed Species

No federally threatened or endangered species are known to occur in the project area or were observed during biological surveys; therefore, it is unlikely that impacts to federally listed species would result from the Proposed Action. The greater sage-grouse, a candidate species for federal listing, and a BLM special status species does not have habitat in the project area. Therefore, there would be no impacts to greater sage-grouse as a result of the project.

BLM Special Status Species

Burrowing owls and pygmy rabbits were not detected in the project area during biological surveys conducted in July 2012 and have a low potential to occur within the project area based on habitat available. EPMs discussed in Section 2.2.13 state that additional surveys would be conducted when nesting migratory bird surveys are conducted prior to surface disturbance during nesting season. Any active burrowing owl nest identified during clearance surveys would be avoided.

Nesting and foraging habitat occurs within the project area for year-round wildlife residents of Nevada, including pinyon jay and ferruginous hawk, both of which were detected during biological surveys conducted in July 2012. Implementation of the EPMs outlined in Section 2.2.13 for migratory birds would ensure that prior to project-related surface disturbance, nesting surveys for migratory birds (including raptors) would be conducted and any identified nests would be avoided. A temporary loss of approximately 61.23 acres of golden eagle foraging habitat over the 10-year life of the project is not expected to reduce the prey base for this species. Project-related activities would not be in close proximity to the golden eagle nest located to the north of the project. A juvenile fledged from the nest in 2012. Pilot Gold would implement golden eagle nest monitoring as described in Section 2.2.13. The project is expected to have minimal impacts to golden eagles.

Foraging and day roosting habitat is available within the project area for the Brazilian free-tailed bat (*Tadarida brasiliensis*), little brown bat (*Myotis lucifugus*), long-legged myotis (*Myotis volans*), pallid bat (*Antrozous pallidus*), silver-haired bat (*Lasionycteris noctivagans*), western pipistrelle bat (*Parastrellus hesperus*), western small-footed myotis (*Myotis ciliolabrum*), and Yuma myotis (*Myotis yumanensis*). No hibernacula or maternity roost habitat are available in the project area. The Proposed Action could potentially impact the foraging and day roosting activities of the BLM sensitive bat species if disturbance occurs near occupied rock outcrops during exploration activities. Indirect impacts to these species could result from human activity and noise. However, the bats may forage and roost in similar habitat located adjacent to the project area during project-related activities.

Effects to BLM special status species habitat would be minimized through reclamation and the Proposed Action would not result in a permanent or long-term net loss of potential habitat. If potential habitat were disturbed by the project, effects on local and regional populations would be minimal, temporary, and not expected to contribute to any detectable loss of viability for the for individuals, local populations, or regional populations of these species. Therefore, impacts to BLM special status species from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Under the No Action Alternative, ongoing Notice-level mineral exploration activities currently permitted in the project area would continue to occur, which would result in the temporary loss of up to five acres of wildlife habitat. The No Action Alternative would result in minimal impacts to local or regional populations of special status species. Under this alternative, there would be no increase in human activity or traffic, and no semi-permanent structures or water wells would be constructed. Any impacts to these species as a result of this alternative would be similar, although, proportionally less than the Proposed Action.

3.2.15 Vegetation

3.2.15.1 Affected Environment

The project area is located within the Intermountain Region, Great Basin Division, Calcareous Mountains Section floristic zone (Cronquist et al., 1972). The Calcareous Mountains Section contains high limestone-capped mountains and sagebrush-covered valleys. A biological baseline survey was performed in the project area in June 2012 that included mapping vegetation community types and a floristic inventory (JBR, 2013). Lower than normal precipitation over the 2011-2012 winter that continued into the spring may have resulted in lower plant species diversity throughout the project area during the survey. Vegetation communities within the project area include the following (Figure 5):

- Inter-Mountain Basins Mixed Salt Desert Scrub (198.05 acres);
- Great Basin Pinyon-Juniper Woodland (1,878.16 acres);
- Great Basin Xeric Mixed Sagebrush Shrubland (580.12 acres); and
- Recently Mined or Quarried (185.14 acres).

Dominant vegetation at the higher elevations of the project area varies from mature closed stands of Great Basin Pinyon-Juniper Woodland to more open stands Great Basin Pinyon-Juniper Woodland and Great Basin Xeric Mixed Sagebrush Shrubland. In the lower elevations, Great Basin Xeric Mixed Sagebrush Shrubland is replaced with Inter-mountain Basins Mixed Salt Desert Scrub. The ecological condition of the vegetative range sites varies from early successional in the disturbed/reclaimed areas and mid to late successional in the undisturbed areas. Sites in the early successional stage have been subject to disturbance for years by a combination of wildland fires, livestock, and feral horse grazing, as well as past mining activities. Vegetation in the project area is sparse as a result of the xeric conditions in the area.

The Recently Mined or Quarried vegetation community is an altered or disturbed land cover type for the open pit mines and quarries that are lacking vegetation and visible on aerial imagery in the project area. The Kinsley Mountain Mine was operated in the 1990s and resulted in the mining of several open pits. Additional disturbance included a waste dump, crusher site, roads,

leach pad, and process buildings and ponds. The mine was reclaimed in the mid- to late-1990s and included the removal of all ancillary facilities, site grading, plug dump grading, mine road grading, exploration road grading, haul road grading, haul road ripping, fresh water pond grading, and seeding. Under the authorized Notice, Pilot Gold has been taking gravel from a gravel pit in Section 17, T27N, R68E, for road maintenance. The gravel pit disturbance is included in the Recently Mined or Quarried vegetation community.

In May 2012, the BLM evaluated the revegetation success in the reclaimed area and assigned three categories to the area. Category 1 includes successful reclamation. Category 2 refers to areas that have been recontoured and reseeded; however, revegetation was not successful. Category 3 includes areas that have not been recontoured, nor revegetated. Total acreage of each category type within the project area includes the following (Figure 5):

- Category 1 – 109.59 acres;
- Category 2 – 10.75 acres; and
- Category 3 – 62.97 acres.

A vegetation transect survey was performed in Category 1 reclamation to characterize the reclaimed communities (Appendix A). As a result of the vegetation transect survey, Category 1 reclamation is separated into three discrete vegetation communities based on species dominance and includes the following: (1) perennial grasses; (2) forage kochia; and (3) rabbitbrush. The perennial grasses community is composed primarily of crested wheatgrass and Indian ricegrass (*Achnatherum hymenoides*) and contains the following shrubs and forbs: rubber rabbitbrush (*Ericameria nauseosa*); yellow rabbitbrush (*Chrysothamnus viscidiflorus*); shadscale (*Atriplex confertifolia*); and forage kochia. The perennial grasses community occurs on north and northeast aspects of the reclaimed area. The forage kochia community is dominated by forage kochia and includes scattered yellow rabbitbrush, Douglas dustymaiden (*Chaenactis douglassii*), Sandberg bluegrass (*Poa secunda*), Indian ricegrass, and crested wheatgrass. The forage kochia community occurs on north, east, and southeast aspects of the reclaimed area. The rabbitbrush community is dominated by yellow rabbitbrush and includes antelope bitterbrush (*Purshia tridentata*), rubber rabbitbrush, forage kochia, Douglas dustymaiden, squirreltail (*Elymus elymoides*), Sandberg bluegrass, cheatgrass, and Indian ricegrass. The rabbitbrush community occurs on east and northeast aspects of the reclaimed area.

3.2.15.2 Environmental Consequences

Proposed Action

The project would result in disturbance or removal of up to approximately 70.69 acres of vegetation over the life of the project. Of the total acres of disturbance, 10.23 acres of surface

disturbance would be created outside the project area for development of water well(s) and expansion of a gravel pit. All other disturbance would occur within the project area.

Construction disturbance would occur primarily on the steeper slopes on the west and east sides of Kinsley Mountain in the Great Basin Pinyon-Juniper Woodland vegetation community. The Proposed Action would affect approximately two percent of the vegetation in the project area over the life of the project. Surface disturbance would be dispersed throughout the project area and would be linear and patchy in form. No unique vegetation communities would be removed as a result of the project. Reclamation would begin upon completion of exploration activities using a BLM-recommended seed mix (Tables 5, 6, and 7) and native species would move back into the disturbed areas adding to species diversity. Therefore, the impacts to vegetation from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Under the No Action Alternative, the Proposed Action would not be approved; however, authorized mineral exploration activities would continue to occur similar to those that described for the Proposed Action and would impact up to five acres of vegetation. Under this alternative, vegetation monitoring would not occur and the Noxious Weed Management Plan would not be implemented.

3.2.16 Visual Resources

3.2.16.1 Affected Environment

Scenic quality is a measure of the visual appeal of a parcel of land. Section 102 (a)(8) of FLPMA emphasizes protection of the quality of scenic resources on public lands. Section 101(b) of NEPA requires that measure be taken to ensure that aesthetically pleasing surrounding be retained for all Americans.

The project area occurs entirely within land classified as Visual Resource Management (VRM) Class IV as designated in a visual resource inventory completed by the BLM. The objective of this class is to provide for management activities that allow for major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major forces of viewer attention. However, every attempt should be made to minimize the impact of such activities through careful location, minimal disturbance and repeating the basic elements of line, form, color, and texture (BLM, 1986).

The project area is located on the southern flank of the Kinsley Mountains. The Kinsley Mountains are situated on a northeastern spur of the Antelope Range and are bound by Kinsley

Draw to the west and by Antelope Valley to the east. The overall landscape is a combination of natural and human-made elements. Natural elements of valley bottom, foothills, and low mountains with a transition of salt desert scrub intermixed with low sagebrush at the lower elevations to the higher elevation pinyon-juniper covered slopes is common of the 5,000- to 7,500-foot AMSL elevations of northern Nevada. Throughout the year, colors in the landscape are primarily brown hues dotted with dark green vegetation. Snow is common in the winter months. Textures in the landscape include rocks, sagebrush, and trees. Human-made features in the area include existing mine disturbance in the form of open pits, roads, and drill pads. Range improvements and fences are also present. The lines within the project area are bold and irregular as a result of the existing open pits. The land forms in the project area include flat to rolling to steep terrain. The project is spatially positioned on valley floor, slope-toe, side-slope, and ridge-top topography.

3.2.16.2 Environmental Consequences

Proposed Action

The east side of the project area would primarily be visible to motorists, hunters, and recreational users traveling on the Kinsley Mountain Mine Road, and on the west side for travelers, hunters, and recreational users along the Kinsley Draw Road. Project activities would not be visible to motorists on U.S. Highway 93-Alternate.

Visual impacts associated with the Proposed Action could result from the scenic disturbance of the landscape. The eastern and western portion of the Kinsley Mountains would be temporarily impacted with linear disturbances from drill roads and patchy disturbances for drill sites and well sites. Well Sites 1 and 2 are located on the eastern side of the Kinsley Mountains where valley bottom foothills primarily consist of brown hues. Past mining activities have altered visual elements of line and color on the eastern side of the Kinsley Mountains, which can be seen from the Kinsley Mountain Mine Road.

Visual impacts would be considered minimal because existing roads from past mining activities would be utilized and the proposed improvements and maintenance would not be particularly noticeable and would blend in with the current environment. Activities related to the Proposed Action would result in short-term visual impacts principally affecting the visual elements of line and color. Horizontal and shallow diagonal lines from drill roads would cause moderate, temporary line contrasts with the natural landscape. All drill sites/wells, sumps, and constructed roads would be recontoured to approximate the original topography during reclamation. As described in Section 2.2.12.3, fill material, enhanced with growth media, would be pulled with an excavator and bulldozer onto the roadbeds, and drill/well sites to fill in the cuts and restore the slope to natural contours. Reclamation activities would be conducted concurrently with exploration activities so that not all 70.69 acres would be disturbed at once. Disturbance of

vegetation would cause moderate, temporary color contrasts. With successful reclamation and revegetation, long-term visual impacts would be minimized. EPMs and standard operating procedures for exploration would aid in protecting the visual quality of the area. The effects of the project on visual resources would be consistent with BLM prescribed Visual Resource Inventory Class IV objectives. Therefore, the impacts to visual resources from the Proposed Action are expected to be negligible and this resource is not further evaluated in this EA.

No Action Alternative

Under the No Action Alternative, none of the impacts associated to the Proposed Action would occur; however, ongoing activities currently permitted under the Notice would continue to occur and would impact visual resources similarly to the Proposed Action; although, the disturbance would be proportionally less. Impacts from the No Action Alternative are consistent with BLM VRM Class IV objectives.

3.2.17 Wastes, Hazardous or Solid

3.2.17.1 Affected Environment

Hazardous materials utilized during project-related activities would include diesel fuel, gasoline, and lubricating grease. Approximately 500 gallons of diesel fuel would be stored in fuel delivery systems on vehicles and drill rigs. It is anticipated that a 4,000-gallon diesel fuel storage tank would be utilized at the project. The entire diesel fuel tank area would employ spill containment measures. Approximately 100 gallons of gasoline would be stored in fuel delivery systems for light vehicles. Approximately 100 pounds of lubricating grease would be stored on the drill rigs or transported by drill trucks. Additionally, Well Site 1 or 2 would store diesel fuel in a diesel generator to power the well pump.

Self-contained, portable, chemical toilets would be used for human waste and all human waste would be hauled off-site and disposed of in a sewage treatment facility.

Refuse would be generated by the project and would be disposed of at an authorized landfill facility off-site, consistent with applicable regulations. No refuse would be disposed of on-site. Water and non-toxic drilling fluids or products, including Abandonite, Alcomer 120L, bentonite, EZ-mud, Polyplus, and super plug, would be utilized as necessary during drilling and would be stored within the project area.

Magnesium chloride may be used for road stabilization and dust control during exploration activities.

There is the potential for the use of air-track drilling and blasting while building sections of the exploration roads instead of relying solely on a hydraulic hammer. If high silica dust is

encountered, then equipment modifications (i.e. water spray bars) would be installed to mitigate the dust.

3.2.17.2 Environmental Consequences

Proposed Action

Hazardous substances including diesel fuel, gasoline, and lubricating grease, as well as non-toxic drilling fluids or products could spill during project-related activities. In addition, portable chemical toilets could be blown over by the wind. A Spill Contingency Plan is included in Appendix D of the Plan of Operations and would be implemented to control drilling fluids and petroleum products. All containers of hazardous substances would be labeled and handled in accordance with NDOT, NDEP, EPA, and MSHA regulations. In the event that a reportable quantity of hazardous or regulated materials, such as diesel fuel, is spilled, measures would be taken to control the spill, and the NDEP, BLM, and the Emergency Response Hotline would be notified, as required. If any oil, hazardous material, or chemicals are spilled during operations, they would be cleaned up in a timely manner. After clean-up, the oil, toxic fluids, or chemicals and any contaminated material would be removed and disposed of at an approved disposal facility. The generator at Well Site 1 would be supplied with diesel fuel as needed. The generator would be placed in a lined containment pit and would incorporate spill prevention measures. Portable chemical toilets would be secured to prevent being blown over by the wind. Additionally, all refuse generated by the project would be hauled off-site. Therefore, no impacts to the environment from wastes associated with the Proposed Action are anticipated.

No Action Alternative

Under the No Action Alternative, ongoing mineral exploration activities currently permitted in the project area would continue. With the implementation of a Spill Contingency Plan (included in Appendix D of the Plan of Operations), no impacts to the environment from wastes associated with the No Action Alternative are anticipated.

3.2.18 Water Quality (Surface and Ground)

3.2.18.1 Affected Environment

Surface Water

The project area is located in the Antelope Valley Hydrographic Basin 186A and 186B, within the Central Hydrographic Region. The drainages within the project area are formed from ephemeral streams supplied with runoff from rains and winter snow pack. The north-south topographical influence of Kinsley Mountain causes drainages to flow east and west. Stream flow originating from the Kinsley Mountains is ephemeral in nature and is directed east and west towards the Antelope Valley Hydrographic Basin. The stream channels in the bottom of Antelope Valley are also ephemeral and flow toward the north. The ephemeral drainages within the project area do not exhibit vegetation that differs from adjacent upland vegetation.

The United States Geological Survey National Hydrography Dataset and the USFWS National Wetlands Inventory were researched to identify potential wetlands and surface water resources in the area. There are no wetlands within the project area.

Permanent sources of water are limited in the surrounding area and include five springs. Kinsley Spring is located approximately 1.7 miles southwest of the project area. Perkins Spring is located approximately 2.8 miles southwest of the project area. There are two unnamed springs south of Perkins Spring located approximately 2.7 miles and 3.2 miles southwest of the project area. Boone Spring is located approximately 3.7 miles west of the project area. Chin Creek Spring is located southwest of the project area approximately 3.5 miles (USGS, 2012).

Groundwater

Little information is available on groundwater in the area. Two wells occur in the vicinity of the project area, Kinsley Well and Itcaina Well. Kinsley Well, located in Antelope Valley Hydrographic Basin 186A on the eastern side of Kinsley Mountain, in Section 4, T26N, R68E, was drilled to a depth of 703 feet and had a static water level of 372 feet in 1994 (NDWR, 2012). Kinsley Well was utilized for production water for the Kinsley Mountain Mine and is not currently in use or approved for use. Itcaina Well, located in Antelope Valley Hydrographic Basin 186B on the western side of Kinsley Mountain, in Section 25, T27N, R67E, was drilled to a depth of 75 feet and had a static water level of 28 feet in 1963 (NDWR, 2012). Itcaina Well is utilized for stock water. Exploration drilling conducted by Pilot Gold in the project area has not encountered groundwater to a depth of 1,200 feet. There is one hole drilled by Cominco (K-425) that did not encounter groundwater to a depth of 1,890 feet.

3.2.18.2 Environmental Consequences

Proposed Action

Activities conducted under the Proposed Action would avoid surface water resources, since there are no seeps, springs, or perennial drainages within the project area. As outlined in Section 2.2, Pilot Gold has committed to EPMs and BMPs during construction, operation, and reclamation that are expected to minimize sedimentation or erosion resulting from snowmelt or precipitation events.

A Spill Contingency Plan is included in Appendix D of the Plan of Operations and would be implemented to control drilling fluids and petroleum products. All containers of hazardous substances would be labeled and handled in accordance with NDOT, NDEP, EPA, and MSHA regulations (Section 3.2.17). Impacts would be minimal due to the use of non-toxic drilling fluids and adherence to NAC 534.4369 and 534.4371.

If groundwater is encountered, the borehole would be plugged pursuant to NAC 534.420. Generally, all boreholes (except well sites) would be plugged prior to the drill rig moving from the drill site in accordance to NAC 534.4369 and NAC 534.4371. If casings are set in a borehole, the boreholes would be completed as wells and plugged pursuant to NRS 534.420, or the casings would be completely removed from the boreholes when they are plugged pursuant to Section 31. The upper portion of the borehole may be permanently cased if the annulus is completely sealed from the casing shoe to surface pursuant NAC 534.380. Adhering to these policies would minimize groundwater impacts.

The Proposed Action would utilize water for exploration drilling, road construction, and dust suppression. This would result in an average consumptive use of approximately 25,000 gallons of water per day (i.e., 5 million gallons of water per year, or 15.34 acre-feet per year). Pilot Gold would obtain water from a permanent production well. Well Sites 1 and 2 are located in Antelope Valley Hydrographic Basin 186A on the eastern side of Kinsley Mountain, and are proposed to be drilled to a depth of 800 feet. Antelope Valley Hydrographic Basin 186A has a perennial yield of 800 acre-feet per year. Therefore, if all the project-related water use occurred in Antelope Valley Hydrographic Basin 186A, then the project would consume approximately 1.9 percent of the annual perennial yield in the basin. Although this basin is currently completely appropriated, some acre-feet of those appropriated water rights are not currently in use.

Proposed water pumping would result in a decrease in groundwater elevation near the proposed well sites. This decrease in groundwater elevation is not expected to considerably impact groundwater levels in nearby permitted wells due to geology, aquifer characteristics, distance from the proposed diversions, and the temporary nature of the proposed diversions. The nearest permitted groundwater well is Itcaina Well, which is 1.2 miles from proposed Well Site 3, and approximately three miles from Well Sites 1 and 2. The Itcaina Well would be separated from Well Sites 1 and 2 by the Kinsley Mountains, which would act as a barrier to groundwater impacts. Proposed Well Site 3 is close enough to cause impacts to water levels in Itcaina Well; however, the rate of diversion is minimal and the proposed duration is minor hence no considerable effects are expected. Water levels in Kinsley Well may decrease if the proposed Well Site 1 is developed, but the change in water levels would be minimal and no water uses would be affected because there are currently no permitted uses for Kinsley Well.

Decreases in groundwater elevations are not expected to impact surface water resources because there is not a strong connection between groundwater at the proposed points of diversion and surface water in or near the project area. There are only ephemeral water resources in the vicinity of the proposed wells and these sources are not affected by groundwater pumping. The nearest surface water resource with any connection to groundwater is Kinsley Spring and it is

located approximately five miles from Well Sites 1 and 2, and approximately four miles from Well Site 3. Due to the rate and depth of the proposed diversion(s), distance between the spring and well, and differences in geology, impacts from groundwater pumping are not expected to affect Kinsley Spring. The same is true for other nearby springs, which are all more than four miles from the proposed well sites.

No Action Alternative

Under the No Action Alternative, Notice-level exploration activities would continue to occur and no water production would be drilled. The authorized disturbance would result in minimal impacts to soil erosion and stability.

3.2.19 Wild Horses

3.2.19.1 Affected Environment

The project is located within the Antelope Valley Herd Management Area (HMA). There are 11 grazing allotments within the Antelope Valley HMA. Project-related activities are proposed in the Boone Springs and the Antelope Valley grazing allotments within the Antelope Valley HMA (Figure 6).

Boone Springs Allotment

The Appropriate Management Level (AML) in the Boone Springs Allotment equals 14 to 23 wild horses. There are no streams and one developed spring, Perkins Spring (on public land), in the Boone Springs Allotment. Perkins Spring is located at the extreme southern portion of the allotment approximately 2.8 miles southwest of the project area. The spring was developed with all available water in a pond near the spring. The limited riparian area around the pond was impacted by wild horses until BLM installed an enclosure around the spring and a trough outside of the enclosure. Boone Spring (on private land), located approximately 3.7 miles west of the project area, provides most of the water for wild horses east of U.S. Highway 93-Alternate. In 2007, NDOT fenced U.S. Highway 93-Alternate, which prevented wild horses from moving from the eastern portion of the Antelope Valley HMA to the western portion of Antelope Valley HMA.

Antelope Valley Allotment

There are no fences to restrict the movement of wild horses between U.S. Highway 93-Alternate and the eastern portion of the HMA and there are no interior fences in the Antelope Valley Allotment. The AML as established in the Antelope Valley Allotment is five to eight wild horses.

There are no streams and one developed spring on this allotment. The spring is located in Section 33, T28N, R67E, at the northern portion of the allotment, approximately five miles from

the project area (Figure 6). The spring was developed in 1963 with all available water going into the pipeline. There is no riparian area in or around the spring, nor is there any potential for it to provide riparian habitat.

Additional surface water resources near the project area, south of the Boone Springs and the Antelope Valley grazing allotments, include: Kinsley Spring, located approximately 1.7 miles southwest of the project area; Perkins Spring, located approximately 2.8 miles southwest of the project area; two unnamed springs south of Perkins Spring located approximately 2.7 miles and 3.2 miles southwest of the project area; Boone Spring, located approximately 3.7 miles west of the project area; and Chin Creek Spring is located southwest of the project area approximately 3.5 miles (Figure 6) (USGS, 2012).

Wild horses utilize the reclaimed roads and existing roads in the project area. Wild horses have been documented using the reclaimed area around the Kinsley Mountain Mine and are most commonly observed on the lower side slopes of the Kinsley Mountains, as well as the surrounding valleys. Movement corridors for wild horses in the area occur to the north and south of the Kinsley Mountains (Figure 6). No movement over the crest of the Kinsley Mountains has been documented.

In spring 2012, an inventory flight found 225 adult wild horses and 20 foals east of U.S. Highway 93-Alternate in the eastern portion of the Antelope Valley HMA. The AML for that portion of the Antelope Valley HMA east of U.S. Highway 93-Alternate is 23 to 38 wild horses. The March 2012 inventory flights found 379 adult wild horse and 39 foals in the Antelope HMA. The AML for the Antelope HMA is 150 to 324 wild horses.

Due to escalating conditions, in October 2012, the BLM removed 135 wild horses from the Antelope HMA.

3.2.19.2 Environmental Consequences

Proposed Action

Impacts associated with the exploration activities are expected to be short-term (lasting the duration of the project) to wild horses in the project area. Impacts would be limited to a temporary disturbance or displacement of wild horses using the reclamation area. Since the majority of the habitat removal is proposed in the Great Basin Pinyon-Juniper Woodland vegetation community, along the crest of the Kinsley Mountains, no loss of forage is anticipated. The quality, quantity, and distribution of suitable wild horse habitat are not expected to be substantially altered by project implementation.

The migration corridor for wild horses in the HMA is north and south of the Kinsley Mountains, so wild horses moving through the area would not be affected by the Proposed Action. A minor increase in traffic would occur; however, the likelihood of wild horse-vehicle collisions would be minimized by the speed limit restrictions in the project area.

As described in Section 3.2.18.2, there would be no impacts to surface water resources or groundwater as a result of using water from the well sites for project-related activities, so quantity and quality of the drinking water for wild horses would not be affected. The Proposed Action would result in minimal impacts to local populations of wild horses.

No Action Alternative

Under the No Action Alternative, ongoing Notice-level mineral exploration activities currently permitted in the project area would continue to occur, which would result in the temporary loss of up to five acres of vegetation. The No Action Alternative would result in minimal impacts to the local wild horse population. Impacts to wild horses as a result of this alternative would be similar, although, proportionally less than the Proposed Action.

3.2.20 Wildlife

3.2.20.1 Affected Environment

The wildlife species that inhabit the Kinsley Mountain area are typical of the arid/semi-arid environment in the central Great Basin. Wildlife species detected in the project area include insects, reptiles, birds, raptors, and mammals. No perennial, ephemeral, or intermittent, streams and no fish habitat occur within the project area. There are four vegetation community types located within the project area. The vegetation community types include Great Basin Xeric Mixed Sagebrush Shrubland, Great Basin Pinyon-Juniper Woodland, and Inter-Mountain Basins Mixed Salt Desert Scrub, and Recently Mined or Quarried. Great Basin Pinyon-Juniper Woodland is the most common vegetative community within the project area. A variety of terrestrial wildlife species are associated with all of these upland communities, with greater species diversity occurring in areas exhibiting greater vegetative structure and soil moisture. Overall the xeric conditions in the project area result in lower wildlife species diversity than other parts of northeastern Nevada.

Available water for wildlife consumption is limited in the project region. No permanent source of water exists in the project area. Kinsley Spring, located approximately 2.1 miles southwest of the project area, is the nearest natural perennial water source and provides a dependable year-round water source for wildlife (USGS, 2012). A wildlife guzzler is located less than one mile east of the project area, which provides an additional water source for wildlife. Water sources in the vicinity of the project support a greater diversity and population density of wildlife species than any other habitat type occurring in the surrounding area.

Information regarding wildlife species and habitat within the project area was obtained from a review of existing published sources, BLM, NDOW, and USFWS file information, as well as Nevada Natural Heritage Program database information.

A diversity of nongame species (e.g., small mammals, passerines, raptors, insects, and reptiles) occupies a wide range of trophic levels and habitat types on Kinsley Mountain.

Insects

Biological baseline surveys were performed by JBR in 2012 in the project area. The following common insect species were observed in the project area: common sootywing (*Pholisora Catullus*); cricket (Family: Gryllidae); gnat (Suborder: Dipterid); grasshopper (Family: Acrididae); Great basin wood-nymph (*Cercyonis sthenele*); housefly (*Musca domestica*); orb weaver spider (*Vanessa cardui*); darkling beetle (*Eleodes concinnus*); Queen Alexandra's sulphur (*Colias Alexandra*); silvery blue butterfly (*Glaucopsyche lygdamus*); western white butterfly (*Pontia occidentalis*); wolf spider (Family: Lycosidae); and Zerene fritillary (*Speyeri zerene*).

Reptiles

The following reptiles were observed in the project area: common garter snake (*Thamnophis sirtalis*); blue-tailed skink (*Cryptoblepharus egeriae*); rock lizard (*Petrosaurus mearnsi*); and western fence lizard (*Sceloporus occidentalis*).

Birds

Nongame birds encompass a variety of passerine and raptor species including migratory bird species that are protected under the MBTA (16 USC 703-711) and Executive Order 13186 (66 Federal Register 3853); see Section 3.2.7 for further details. Passerine or songbird species occupy the entire range of habitats found within the project area. The following common bird species have been detected in the project area: American robin; black-chinned hummingbird (*Archilochus alexandri*); Brewer's sparrow; bushtit; chipping sparrow (*Spizella passerina*); Clark's nutcracker; cliff swallow; common raven; dark-eyed junco; green-tailed towhee; horned lark; loggerhead shrike; mountain bluebird (*Sialia currucoides*); mountain chickadee (*Poecile gambeli*); mourning dove (*Zenaida macroura*); northern flicker; pinyon jay; western meadowlark; western scrub jay; and white-crowned sparrow (*Zonotrichia leucophrys*). The pinyon jay, Brewer's sparrow, loggerhead shrike, and sage thrasher are BLM special status species and are discussed in Section 3.2.14 (Figure 5).

Raptors

The following three species of raptors were observed within or near the project area: ferruginous hawk; golden eagle; and red-tailed hawk (*Buteo jamaicensis*). Ferruginous hawk and golden eagle are BLM special status species and are discussed in Section 3.2.14.

Appropriate foraging habitat for all of the aforementioned raptor species occurs within the project area. A golden eagle nest was found approximately 1.3 miles north of the project area boundary. Appropriate nesting habitat for red-tailed hawk of trees and cliffs occur within the project area. Appropriate nesting habitat for ferruginous hawk of tall trees occurs within the project area.

Mammals

Common mammal species such as coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), least chipmunk (*Tamias minimus*), antelope squirrel (*Ammospermophilus leucurus*), and woodrat (*Neotoma* sp.) have been detected within the project area either directly or by observation of tracks, scat, carcass, prey remains, burrow, or other sign.

Other important nongame species include several bat species. The project area contains suitable foraging habitat for several bat species. All of the bats identified on Kinsley Mountain are currently BLM sensitive species and/or Nevada protected species. These species are presented in detail in Section 3.2.7.

Game Species

Big game species that occur on or around Kinsley Mountain include mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), and elk (*Cervus canadensis*). Approximately 2,837 acres of winter range mule deer habitat occur within the project area. Mule deer habitat within the project area is not classified as crucial summer or crucial winter habitat and no movement corridors occur within the project area (BLM, 2013). Mule deer occur throughout the Elko District and Kinsley Mountain is in the NDOW's Hunt Unit 106. The NDOW conducted post-season survey flights of the northeastern Elko County area, Unit 101 through 108 in November 2010. A total of 9,487 deer were classified during the survey with a resulting ratio of 30 bucks to 100 does to 51 fawns (NDOW, 2012). Spring surveys were flown in March 2011. A total of 7,766 mule deer were classified during the survey, yielding a ratio of 27 fawns to 100 adults. This was down four fawns to 100 adults from last year's spring survey and down 12 fawns to 100 adults from the November 2010 survey, which equated to a 31 percent over-winter fawn loss. The decrease is likely a result of the southern winter ranges receiving heavy amounts of snow accumulation throughout the winter months in 2010. This area contained an upward growth trend from 1997 through 2007. Current population levels have

remained stable since 2008. A small percent of the mule deer population uses the Kinsley Mountain Range.

Pronghorn antelope occur throughout the lower elevations surrounding Kinsley Mountain on a year-round basis. Approximately 51 acres of year-round pronghorn antelope habitat occur within the project area. Pronghorn antelope habitat within the project area is not classified as crucial summer or crucial winter habitat and no movement corridors occur within the project area (BLM, 2013). The project area falls within Hunt Units 078, 105-107, 121 in southeastern Elko County and central White Pine County (NDOW, 2010). Survey efforts for this unit group were reduced compared to the previous year. A total of 215 animals were classified in mid-January, yielding sex and an age ratio of 22 bucks to 100 does to 32 fawns. Despite the above average fawn ratio observed in the 078, 105-107, 121 unit groups this year, the 2011 population estimate of approximately 1,000 pronghorn antelope reflects a 17 percent decline over last year's estimate. This decline was a result of a model adjustment based on a historic winter mortality event (1992-1993), which had originally been underestimated. Although increased mortality rates were applied to the model for the winter of 1992-1993, this population continues to show a long-term upward growth trend. The fawn ratios, which had been observed in 2008 and 2009, were well below the long-term average of 30 fawns to 100 does. This year's observed fawn ratios were the highest since 2007. Should fawn ratios continue to stay at or above the long-term-average, positive population growth should be realized.

Spring 2010 provided significant moisture and cool weather, facilitating a strong onset of forbs and grasses. Summer moisture was sporadic, however; its frequency seemed to sustain the growth of succulent summer forbs and grasses providing quality forage throughout the summer months. Despite having a relatively wet spring in 2010, water availability throughout the year continues to be an issue for both wildlife water requirements and forage production, and resulted in the boom and bust cycle of observed fawn ratios. Pronghorn antelope have been especially challenged in areas where they compete with wild horses for the limited water resources. NDOW is in the process of identifying and developing water impoundments and protecting perennial water sources from degradation in these unit groups, which would provide more consistent water sources for pronghorn antelope on a year-round basis. As outlined in Section 2.2.13, Pilot Gold has committed to EPM's that would involve assisting with maintenance of a temporary proposed wildlife water guzzler (Figure 5).

Approximately 2,818 acres of year-round elk habitat occur within the project area. Elk habitat within the project area is not classified as crucial summer or crucial winter habitat and no movement corridors occur within the project area (BLM, 2013). The elk within the project area fall within Hunt Unit 078 and portions of 104, 105-107 in Spruce Mountain area in Elko County (NDOW, 2010). The majority of past surveys in this area were conducted in conjunction with

spring and fall deer surveys. A dedicated elk-only survey was completed in January 2011. Units 078, 104, 105, 107 and portions of 121 were surveyed with the majority of elk observed in units 104 and 105. A total of 278 elk were observed, yielding sex and age ratios of 69 bulls to 100 cows to 42 calves. The observed calf ratio was exceptional compared to the long-term average of 34 calves to 100 cows and was the highest observed calf ratio since 2006. Movements observed during both this survey and the Unit 121 elk and deer survey indicated interchange between Units 104, 105, and 121.

In the winter of 1997, 146 elk were released in Unit 105 on Spruce Mountain. It has been 14 years since the release and elk have established themselves throughout the entire unit group. Although the long-term average calf ratio remains relatively low, positive population growth is occurring and mature bulls have been observed. Elk have established in Unit 078 and more frequent observations of elk in Unit 106 indicate the herd is still expanding its distribution and range. Movement between adjacent units such as 077 and especially Unit 121 is also occurring and evidenced by elk numbers observed in Unit 105 during late winter surveys in 2010. The total number of elk classified during winter helicopter surveys exceeded the modeled estimate for the unit group. Despite good recruitment observed this year, poor recruitment in recent years would likely not have allowed for population growth. It is expected that some of the elk observed during the 2011 survey emigrated from adjacent areas, especially Unit 121. Plans for a telemetry study are underway and should help to depict seasonal movements of this elk herd. The increase in observed calf ratios and subsequently, the modeled population estimate, are likely reflective of favorable forage conditions which occurred during the last growing season, in conjunction with a relatively mild winter.

Mountain lions (*Puma concolor*) are also classified as a big game species. Mountain lions are fairly common in north-central Nevada and could occupy the higher elevations of Kinsley Mountain. They often travel between mountain ranges and valleys depending on prey availability.

Small game species that have been detected within the project area during wildlife surveys include chukar (*Alectoris chukar*) and mountain cottontail (*Sylvilagus nuttallii*). Chukar are found on rocky ridges and hillsides. Mountain cottontail can be found in rocky, brushy, and dense sagebrush areas. Mourning doves have been observed in the project area and can be found in a wide range of habitats generally in close proximity to water and are most likely to occur when water is available seasonally.

Furbearers that may occur within the project area include the badger (*Taxidea taxus*), common gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), bobcat (*Lynx rufus*), and raccoon (*Procyon lotor*).

3.2.20.2 Environmental Consequences

Proposed Action

The Proposed Action would result in a temporary loss of 70.69 acres. Reclamation following exploration activities could improve habitat by creating pockets of herbaceous plant species that would be available for wildlife forage.

Impacts associated with the exploration activities are expected to be similar for all wildlife species encountered in the project area. Any disturbance to general wildlife and game species would likely be limited to temporary auditory or visual irritation of individuals in or near the project area. Individuals foraging in the project area during exploration activities would likely leave the immediate area resulting in a temporary spatial redistribution of individuals or habitat use patterns during the project; this would not be a long-term effect since there is undisturbed and suitable habitat around the project area. If displaced wildlife move into habitat already at carrying capacity, there could be a higher mortality rate among the displaced individuals and an impact to the resident population. This would cause a reduction of viable young at least for the next breeding season in the area. The disturbance due to project-related activities would be short-term. No long-term impacts are likely to occur since reclamation and reestablishment of vegetation would take place within three years of project completion. The quality, quantity, and distribution of suitable wildlife habitat are not expected to be substantially altered by project implementation. A minor increase in traffic would occur; however, the likelihood of wildlife-vehicle collisions would be minimized by the speed limit restrictions in the project area. Additionally, Pilot Gold would report any wildlife mortalities within the project area to the NDOW.

West Nile Virus (WNV) is a mosquito-borne flavivirus that can cause debilitating or fatal neuroinvasive disease in humans and animals. The virus attacks the brain causing inflammation and swelling. The virus persists largely within a mosquito-bird-mosquito infection cycle. Mosquitoes get the virus by feeding on infected birds and can then pass it on to other birds, and occasionally to other animals and people. The virus is not spread from person-to-person (Walker, 2009). Mosquito season in Nevada is typically April through October.

The dominant vector of WNV in sagebrush habitats is the mosquito *Culex tarsalis*. This species prefers sites with submerged vegetation on which to oviposit, and warm standing water that promotes rapid larval development, including ephemeral puddles, vegetated pond edges, and hoof prints. The larvae mature from seven days to four weeks to become full fledged mosquitoes, depending on temperature and food availability. *Culex tarsalis* mosquitoes are most active the first few hours after sunset (Walker, 2009).

Horses also appear sensitive to the virus; however, there is no evidence that WNV causes disease in cattle. The horse and other mammals are considered to be dead-end hosts, meaning that the virus does not multiply to high enough levels in these species to provide a source of infection for mosquitoes.

Some bird species have experienced population declines attributed to WNV including the American crow (*Corvus brachyrhynchos*), western scrub-jay (*Aphelocoma californica*), blue jay (*Cyanocitta cristata*), yellow-billed magpie (*Pica nuttallii*), Steller's jay (*Cyanocitta stelleri*), American robin (*Turdus migratorius*), tufted titmouse (*Baeolophus bicolor*), house wren (*Troglodytes aedon*), and greater sage-grouse. Both resident and migratory birds can be hosts and may act as a source of virus in spring or early summer due to reactivation of a chronic infection. Infected birds are known to exhibit migratory behavior and may be able to carry the virus long distances (Walker, 2009).

In the project area, there are ephemeral puddles scattered throughout the landscape in the spring where rain and snow melt collects. These puddles are depressions that occur naturally, or where depressions have developed in and along roads, or by old mining activity, or by hoof prints, etc. Some of these depressions can hold water long enough to support mosquito reproduction in the spring; however, these areas are dry by May or June and would not support mosquito production the remainder of the year. Also, the few natural springs with perennial surface water near the project area provide some degree of standing water capable of supporting mosquito reproduction during the spring, summer, and fall when temperatures are warm enough. The Nevada Department of Agriculture website provides a 2006 map, which shows that WNV has not been found in an avian species or mosquito pools within the vicinity of Kinsley Mountain (NDA, 2006). The Proposed Action would result in minimal impacts to local or regional populations of wildlife species.

No Action Alternative

Under the No Action Alternative, ongoing Notice-level mineral exploration activities currently permitted in the project area would continue to occur, which would result in the temporary loss of up to five acres of wildlife habitat. The No Action Alternative would result in minimal impacts to local or regional populations of wildlife species. Impacts to wildlife as a result of this alternative would be similar, although, proportionally less than the Proposed Action.

4.0 CUMULATIVE EFFECTS STUDY AREA

4.1 INTRODUCTION

A cumulative impact is defined as an impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (RFFAs), regardless of which agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7).

This analysis examines potential cumulative impacts from past, present, and RFFAs combined with the Proposed Action within the cumulative effects study area (CESA) specific to the resource for which cumulative impacts may be anticipated.

These cumulative impacts include both direct and indirect actions occurring as a result of the Proposed Action and how they affect the resources of concern. These impacts are additive and do not always result in a one-to-one relationship but rather can compound the degree of effect. The significance of effects should be determined based on context (i.e., the setting of the Proposed Action) and intensity (40 CFR 1508.27(b)(7)). Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Intensity refers to the severity of effect. Factors that could be used to define the intensity of effects include the magnitude (relative size or amount of an effect), geographic extent, duration, and frequency of the effects.

Environmental consequences of the Proposed Action and alternatives are described in Chapter 3. The Proposed Action would result in negligible impacts to air quality, invasive non-native species and noxious weeds, forestry and woodlands, geology and minerals, land use, access, and reality, recreation, vegetation, and visual resources; therefore, these resources are not analyzed for cumulative impacts. No impacts to cultural resources are anticipated based on the EPMs outlined in Section 2.2.13 and mitigation outlined in Section 4.1.2. Additionally, no cumulative impacts would occur to cultural resources, Native American religious concerns, waste (hazardous or solid), or paleontological resources; therefore, a cumulative analysis for these resources was not conducted.

Based on the analysis in Section 3.0, the resources to be analyzed in the cumulative impacts section are those for which the Proposed Action would have an impact and include the following:

- Soil Resources;
- Range Resources;
- Water Resources;

- Wild Horses;
- Pronghorn Antelope;
- General Wildlife;
- Special Status Species;
- Raptors; and
- Mule Deer.

Table 17 lists the analyzed resources, the name and size of each CESA, and the figure number on which the geographic extent of the CESA is shown.

Table 17 Cumulative Effects Study Areas

Resource	Cumulative Effects Study Areas		
	Name	Acres	Description
Soils	Soils CESA	2,840	Project Area (Figure 7)
Range Resources	Range CESA	123,452	Antelope Valley and Boone Springs grazing allotments (Figure 7)
Water Resources	Water CESA	255,685	Antelope Valley Hydrographic Sub-Basins 186A and 186B (Figures 7, 9, 10)
General Wildlife, Raptors, and Special Status Species	Wildlife CESA	255,685	Antelope Valley Hydrographic Sub-Basins 186A and 186B (Figures 7, 9, 10)
Wild Horses	Wild Horse CESA	579,919	Portions of Antelope and Antelope Valley HMAs (Figures 8, 9, 10)
Pronghorn Antelope	Pronghorn CESA	435,680	Range of pronghorn antelope use (Figures 8, 9)
Mule Deer	Mule Deer CESA	4,213,340	NDOW Management Area 10 Hunt Units 101-108 (Figures 8, 9)

4.1.1 Past and Present Actions, RFFAs, Disturbances, and Projects

Information utilized in the cumulative impacts assessment was gathered from the following sources: BLM's Land and Mineral Legacy Rehost 2000 System (LR2000); the Nevada Atlas and Gazetteer; GIS shape files provided by the BLM, USFS, and Nevada Bureau of Mines and Geology aerial photography, Eureka County, and White Pine County. Master Title Plats were searched for historical data on Nevada and Utah BLM's Land Records websites. The BLM LR2000 database was queried for authorized multiple land use activities, pending ROW grants, mineral and non-mineral exploration and mining permits and natural catastrophic events. Table 18 outlines the quantifiable actions considered in the cumulative impacts analysis.

Table 18 Past, Present, and Reasonably Foreseeable Future Actions for the Kinsley Exploration Project Cumulative Effects Study Areas

CESA	Types of Activity										
	Communication	Federal Aid-Highway	Sand and Gravel Material Sites	Mineral Exploration and Mining Operations	Range Improvements	Power Line	Railroad	Recreation	Roads	Telephone	Water / Irrigation Facility
Past and Present Actions – Surface Disturbance Acres											
Soils	31	0	3	233	0	0	0	0	0	0	0
Range	31	2,224	387	235	0	157	0	0	98	226	0
Water	42	2,826	357	235	0	171	0	0	172	226	53
Wildlife	42	2,826	357	235	0	171	0	0	172	226	53
Wild Horses	71	4912	1,796	235	0	1,441	0	0	212	390	0
Pronghorn Antelope	38	3,446	477	235	0	840	0	0	190	394	0
Mule Deer	436	14,597	16,259	11,876	644	17,105	3,340	476	4,177	2,757	607
Reasonably Foreseeable Future Actions – Surface Disturbance Acres											
Soils	0	0	0	0	0	0	0	0	0	0	0
Range	0	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	25	0	1	0	0	0	0	0
Wildlife	0	0	0	25	0	1	0	0	0	0	0
Wild Horses	0	0	0	0	0	5,789	0	0	0	0	0
Pronghorn Antelope	0	0	0	0	0	0	0	0	7,857	0	0
Mule Deer	0	0	57	25,320	0	175	0	707	6,607	0	1

The time frame for past, present, and RFFAs begins with the earliest recorded data on the LR2000 report and extends into the future to correspond with the life of the proposed project including reclamation. The past, present, and RFFAs discussed in the following sections have occurred or may occur in numerous geographic locations and therefore, could have impacts to resources within the various CESAs.

Past activities in the seven CESAs include the following:

- Livestock grazing and range improvements;
- Wildland fires and fire rehabilitation (Figure 9);
- Recreation (dispersed used, OHV, Christmas tree cutting);
- Road construction and maintenance;
- Utilities infrastructure including water and irrigation facilities, utility lines (power lines, fiber optic lines, and telephone lines), and railroads;
- Mineral development and exploration including Notice-level exploration (minerals activities on BLM administered land with less than five acres of surface disturbance) and Plans of Operations, metal and non-metal mining projects including the Kinsley Mountain Mine and historic placer mining, and sand and gravel operations; and
- ROWs for projects including communication, federal aid highway, material sites, mineral exploration, oil and gas, power lines, roads, telephone, water/irrigation facility, wind and geothermal, and other undefined projects.

4.2 SOIL RESOURCES

4.2.1 Soils CESA Boundary

The project area was used as the soils CESA boundary for soils resources. The project area covers approximately 2,840 acres (Figure 7). This CESA boundary was chosen because erosion of soils and sedimentation associated with the Proposed Action would be limited to this area.

4.2.2 Introduction

The soils CESA covers the area of past minerals activities as well as those that would be affected by the Proposed Action. The main impact to soils is surface disturbance and the extent of the impact depends primarily on land use. Primary sources of surface disturbance within the CESA include mineral exploration, OHV use, and livestock grazing. Quantifiable acres of disturbance recorded in LR2000 and historical mine records outlined in the sections below are presented in Table 18.

4.2.3 Past and Present Actions

The southern end of the Kinsley Mountains has been explored for sporadic base and precious metals as early as 1862 and continuing into the 1960s. The Kinsley Mountain Project was first explored by U.S. Minerals Exploration Company in 1984 within the project area. After gold discovery, Cominco American Resources, Inc. and Hecla Mining Company completed a number of exploration drilling programs on the property. An open pit gold mine and heap leach facility was permitted on the property in 1995 on public lands managed by the BLM Elko District Office, Wells Field Office. Alta Gold Inc. operated the mine until 1999. Operations included eight shallow open pits, a heap leach facility, and associated roads and facilities. The BLM performed reclamation in the disturbed areas between 2000 and 2010 after Alta Gold Inc. filed for bankruptcy. No wildland fires have been recorded in the CESA to date since 1980.

Previous exploration and mining activities within the project area historically disturbed approximately 188 acres in addition to approximately 16 miles for exploration roads. The exploration roads are assumed to be 20-foot ROWs for approximately 39 acres of surface disturbance; therefore, a total of approximately 227 acres of disturbance is associated with historic mining activities. According to LR2000, an additional surface disturbance of approximately six acres of mineral exploration has occurred more recently.

In addition to mineral activities, soil disturbance within the CESA has occurred from off road travel and dispersed recreation. While there are no specific data that quantify impacts from linear disturbances or activities associated with dispersed recreation, these types of activities would impact soil surfaces through trampling, displacement, or modification.

Approximately 31 acres of surface disturbance associated with communication facilities and three acres associated with sand and gravel operations has occurred within the soil CESA.

Impacts to soils may vary from minor surface disturbance to complete disturbance of the soil profile from mining and road construction activities. Overland travel and livestock grazing may have affected the surface soil properties and function due to soil compaction, reduced vegetation cover and exposure to wind and water erosion. Mining and road construction activities and salvage of the upper soil for plant growth media can result in a change in the soil physical and chemical properties that would affect reclamation activities such as structure, texture, intermixing of rock fragments, soil hydraulics and loss of organic surface material.

4.2.4 Reasonably Foreseeable Future Actions

Future soil disturbance is expected to occur from OHV use, dispersed recreation, livestock grazing, and mineral exploration. No pending ROWs or mineral activities were noted with the

soils CESA other than the Proposed Action. Impacts associated with the RFFAs would be similar to the impacts described for past and present actions.

The amount of wildland fire that will occur within the reasonably foreseeable future within the CESA is unknown and not quantifiable.

4.2.5 Cumulative Impacts

The CESA for soil resources is 2,840 acres. Approximately 267 acres of disturbance is associated with past, present, and RFFAs, which accounts for approximately 9.4 percent of the CESA. The Proposed Action would increase the surface disturbance within the CESA by approximately 70.69 acres for a total of 337.69 acres of surface disturbance. A portion of the surface disturbance associated with the Proposed Action occurred under Notice-level activities in areas that had been previously disturbed. The Proposed Action would account for an additional 2.49 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, present actions and RFFAs associated with mineral exploration and mining operations are subject to reclamation requirements, which would minimize impacts to soil resources. The effects on soil resources would be the same as described for past actions. Implementation of the proposed EPMs and BMPs are expected to minimize potential impacts to soil resources that would result from implementation of the Proposed Action.

Soil disturbance from past, present and RFFAs have not affected soil quality on a large spatial or temporal scale within the CESA. The project would result in few additional impacts to soil resources; therefore, there would be little or no incremental increase in cumulative effects under the project.

4.3 RANGE RESOURCES

4.3.1 Range CESA Boundary

The CESA boundary for range resources includes the full extent of the Antelope Valley and Boone Springs grazing allotments (Figure 7). The total area of the Range CESA is 123,452 acres. This boundary was chosen for the Range CESA because it encompasses the allotments and the permitted range uses and improvements that are associated with the Proposed Action.

4.3.2 Introduction

Cumulative effects to range resources in the CESA primarily occur from livestock grazing and range improvements, utility lines, mining and exploration, road construction and maintenance, sand and gravel extraction, dispersed recreation, and wildland fires. These activities can modify landscapes, impact water sources, and impact vegetation that would otherwise be available for

range resources. These disturbance activities also increase the likelihood of noxious and non-native, invasive species establishment. Quantifiable acres of disturbance in the sections below are presented in Table 18.

4.3.3 Past and Present Actions

Past and present mineral development and exploration projects located within the range CESA have had the potential to impact range resources. There are approximately 235 acres of surface disturbance associated with two authorized Notices and mineral exploration projects within the range CESA. While there are no data on the number of acres reclaimed as a result of past mineral exploration activities, state and federal regulation require reclamation; therefore, it is reasonable to assume that some areas have been reclaimed. There are approximately 387 acres of disturbance associated with sand and gravel operations and other material sites. Extraction of mineral resources directly removes land from range resources use and increases the likelihood of spreading noxious and non-native invasive species. Noxious weeds known to exist within the CESA include musk thistle, Scotch thistle, and bull thistle (Mulligan, 2013). These species and others like them reduce the amount of usable range and available forage.

There are several utilities, infrastructure, and public purpose projects such as power lines and fiber optic lines located within the CESA for a total of 414 acres. There are approximately 2,322 acres of disturbance associated with roads with the range CESA. This acreage includes United States highways, state routes, local and county roads, and other roads. Other roads are classified as roads not designated as local, county, BLM, or USFS roads. This includes, but is not limited to, private roads and roads without an assigned name or ownership.

No wildland fires have been recorded in the CESA since 1980. While there are no specific data that quantify impacts from linear disturbances or activities associated with dispersed recreation these types of activities would impact habitat and/or disrupt the movement of grazing animals.

4.3.4 Reasonably Foreseeable Future Actions

Foreseeable future disturbances within the CESA are expected to occur from dispersed recreation, livestock grazing, mineral exploration, and existing ROWs and associated maintenance. Impacts associated with the RFFAs would be similar to the impacts described for past and present actions.

The amount of wildland fire that will occur within the reasonably foreseeable future within the CESA is unknown and not quantifiable.

4.3.5 Cumulative Impacts

The CESA for range resources is 123,452 acres. Of the total 123,452 acres covered by the CESA, approximately 3,358 acres of disturbance are associated with known quantifiable past, present, and RFFAs, which is a disturbance of approximately 2.72 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 70.69 acres to approximately 3,428.69 acres which equates to approximately 11 AUMs. This is less than one percent disturbance increase within the CESA.

Reclamation and continued monitoring until successful establishment of vegetation species would result in increased herbaceous vegetation and improved range resources. Livestock grazing on the two allotments within the CESA would continue to occur into the reasonably foreseeable future. Considering past, present, and RFFA disturbances in the range resources CESA, combined with the Proposed Action, cumulative effects to grazing resources would be negligible because range resources and vegetation community types are common and widespread throughout the CESA. The project is not expected to impact water sources in the project area; therefore, cumulative impacts to water resources available for livestock are not expected.

4.4 WATER RESOURCES

4.4.1 Water Resources CESA Boundary

The Antelope Valley Hydrographic Basin was used to analyze cumulative effects to water resources. This hydrographic basin consists of hydrographic sub-basin Northern Part 186B and hydrographic sub-basin Southern Part 186A (Figure 7). The total area of the CESA is 255,685 acres. This CESA boundary was chosen because it encompasses the entire project area as well as the hydrographic sub-basins in which with Proposed Action would occur. These are the areas within which other water uses could cumulatively interact with the water sources associated with the Proposed Action.

4.4.2 Introduction

The natural hydrologic characteristics of the CESA are in large part a function of its climate, geology, and vegetation. Thus, these characteristics vary within the 255,685 acres that the CESA covers. The north-south topographical influences within the CESA causes drainages to flow east to west. Many of the streams within the CESA are ephemeral in nature and are directed east and west towards the Antelope Valley Hydrographic Basin. The climate is generally semiarid and, as is typical for the Great Basin, precipitation varies markedly with elevation. Primary land uses within the CESA that can affect water resources include those which use water including mining and agriculture as well as those which have the potential to affect water quality including transportation and livestock grazing. Quantifiable acres of disturbance in the sections below are presented in Table 18.

4.4.3 Past Actions and Present Actions

Past and present actions that could impact water resources include minerals activities, ranching operations including livestock grazing and irrigation from wells, water use by the City of West Wendover, ROWs, road construction and maintenance, dispersed recreation, and wildland fires that introduce sediment to ephemeral streams or springs or consumed water within the water resources CESA.

Approximately 235 acres of surface disturbance associated with mineral exploration and mining operations and approximately 357 acres of surface disturbance associated with sand and gravel pits has occurred within the water resources CESA. Mineral exploration activities and various sand and gravel pits have used or are currently using water (typically groundwater) as part of their operations, either for dust control or processing. These actions may also have affected water quality. General surface disturbance can cause sediment loading, channel rerouting can cause erosion/sedimentation, and inadvertent spills of process water, drilling fluids, or other hazardous substances can contaminate surface water or shallow groundwater.

Impacts from trampling during livestock grazing in wet and flowing ephemeral drainages could result in the compaction and displacement of soil, with subsequent events such as bank erosion or reduced functioning condition of the stream. Increased sedimentation could also occur when vehicles or cattle use stream crossings or remove vegetation from the sides of the streams.

Similar impacts could occur from existing ROWs and associated and dispersed recreation.

Approximately 385 acres of wildland fire has burned within the water resources CESA. Wildland fires are most likely to cause erosion if soils are altered chemically to be hydrophobic, or if a heavy rain event occurs following a fire. There are no specific data that quantify the amount of sedimentation that could occur as a result of these disturbances.

Approximately 439 acres of surface disturbance associated with power and utility lines and 2,998 acres of surface disturbance associated with roads have occurred within the CESA. This acreage includes United States highways, state routes, local and county roads, and other roads. Other roads are classified as roads not designated as local, county, BLM, or USFS roads. This includes but is not limited to private roads and roads without an assigned name or ownership. Power line as well as other utility line construction may use water during implementation; however, their largest effect on water resources is likely related to erosion and/or sedimentation associated with access roads or unreclaimed disturbances. Roads can also be a source of sedimentation as well as present water quality impacts due to inadvertent spill or releases during vehicular accidents.

Approximately 53 acres of surface disturbance associated with water and irrigation facilities has occurred within the water resources CESA. A large source of water consumption within the water resources CESA is irrigation. The Antelope Valley Hydrographic Basin is located within the Boone Springs and Antelope Valley grazing allotments. In addition to its significance relative to water use, irrigation can affect water quality through return flows that have had contact with agricultural chemicals or that mobilize sediment from cultivated fields. Agriculture chemical can affect both surface water and groundwater quality.

4.4.4 Reasonably Foreseeable Future Actions

Potential impacts to water include many of the same types of activities (with the same potential effects) as described in Section 4.4.3. Mineral exploration, power line construction, wind test facilities, and existing ROW maintenance are the primary proposed projects that may occur within the water CESA. All of which would require surface disturbance. Often the greatest risk to surface water with these types of projects is during and immediately after construction. Generally the potential impacts to water resources from these RFFAs are the same as past and present actions.

Approximately 25 acres of disturbance associated with future mineral exploration and mining operations and one acre of future disturbance associated with power lines are expected to occur within the water resources CESA.

The amount of wildland fire that will occur within the reasonably foreseeable future within the CESA is unknown and not quantifiable.

4.4.5 Cumulative Impacts

Of the total 255,685 acres covered by the water resources CESA, 4,108 acres of disturbance are associated with past, present, and RFFAs, which is a disturbance of approximately 1.61 percent of the CESA. The Proposed Action would result in approximately 70.69 acres additional acres of disturbance; therefore, total surface disturbance within the CESA would be approximately 4,178.69 acres. This is less than one percent increase of disturbance within the CESA. This does not include other acreage associated with agriculture or other activities that also have the potential to affect water resources. The amount of acreage disturbed by any one activity or type of activity may not be directly proportional to water impacts because of the different types of links between surface disturbances (e.g., type of activity, soil type, slope) and the potential elevated erosion rates.

The Proposed Action would likely obtain water from one permanent production well located in Antelope Valley Hydrographic Basin 186A on the eastern side of Kinsley Mountain. However, there is a possibility that more than one well site would be needed over the life of the project and

could occur in Antelope Valley Hydrographic Basins 186A and 186B. If all the project-related water use occurred in Antelope Valley Hydrographic Basin 186A, then the project would consume approximately 1.9 percent of the perennial yield in the basin, which would be considered a minor consumptive use. If all the project-related water use occurred in Antelope Valley Hydrographic Basin 186B, then the project would consume approximately 0.9 percent of the perennial yield in the basin, which would be considered a minor consumptive use. Although both basins are currently completely appropriated, some acre-feet of those appropriated water rights are not currently in use. Therefore, the project would likely impact less than 1.9 percent and 0.9 percent of the perennial yield in the Basins 186A and 186B, respectively.

No impacts are expected to surface water because of the proposed depth of the well and the distance of the well to established surface water sources; therefore, the incremental impacts to water resources as a result of the Proposed Action when added to the past and present actions and RFFAs would be negligible.

4.5 WILD HORSES

4.5.1 Wild Horses CESA Boundary

The CESA boundary for wild horses includes portions of the Antelope and Antelope Valley HMAs. The CESA is bordered by the U.S. Highway 93 to the west, the Utah/Nevada State Line to the east, the edge of the Antelope Valley HMA to the north, and the edge of the Shell Creek HMA and Goshute HMA to the south (Figures 8, 9, and 10). The total area of the Wild Horse CESA is 579,919 acres. This CESA boundary was chosen because it encompasses the project area and portions of the adjacent HMAs.

4.5.2 Introduction

Cumulative effects to wild horses in the CESA primarily occur from road construction and maintenance, mining and exploration activities, utility lines, sand and gravel extraction, livestock grazing, range improvements, dispersed recreation, and wildland fires. These activities often modify landscapes and remove vegetation resources that would otherwise be available for wild horse use. These disturbance activities also increase the likelihood of noxious and non-native, invasive species establishment which also reduces the amount of available forage vegetation. Quantifiable acres of disturbance in the sections below are presented in Table 18.

4.5.3 Past and Present Actions

There are approximately 5,124 acres of surface disturbance associated with roads within the CESA boundary. This acreage includes United States highways, state routes, local and county roads, and other roads. Other roads are classified as roads not designated as local, county, BLM, or USFS roads. This includes but is not limited to private roads and roads without an assigned name or ownership. With an increase of human activity, risk of vehicular collisions with wild

horses and displacement of wild horse populations increases. Roads provide human access to areas that would have been otherwise difficult to get to. Noise and increased human activity has the potential to displace herds onto adjacent lands.

Past and present mineral development and exploration projects located within the CESA include approximately 235 acres of surface disturbance. The majority of these projects consist of exploration drilling. There are approximately 1,796 acres of surface disturbance associated with sand and gravel material sites, and approximately 1,902 acres of surface disturbance associated with utility and power line facilities. Wildland fires have burned approximately 2,482 acres within the CESA since 1980 (Figure 9).

Surface disturbance within the CESA has impacted vegetation that could be used as cover and forage for wild horse use. Vegetation clearing activities may increase the likelihood of spreading noxious and non-native, invasive species and can further reduce the amount of usable range and available forage for wild horse use.

Dispersed recreation, OHV use, and livestock grazing occur within the wild horses CESA. While there are no specific data that quantify impacts from linear disturbances or activities associated with dispersed recreation, these types of activities would impact habitat and/or disrupt the movement of wild horses. Livestock grazing has the potential to increase the competition for forage and change the structure or composition of native plant communities. Competition for vegetation between livestock and wild horses has the potential to occur during extreme weather conditions such as cold snowy winters and hot summers.

4.5.4 Reasonably Foreseeable Future Actions

Approximately 5,789 acres of proposed surface disturbance associated with power lines is proposed to occur within the CESA. These types of activities would impact habitat and/or disrupt the movement of wild horses.

Additional RFFAs within the wild horses CESA are expected to occur from dispersed recreation, livestock grazing, mineral exploration, and existing ROWs and associated maintenance. Disturbance as a result of many of these activities is difficult to quantify due to the dispersed nature of these activities.

The amount of reasonably foreseeable future wildland fire that may occur within the wild horses CESA is unknown and not quantifiable.

4.5.5 Cumulative Impacts

Resources associated with wild horses can be affected by mining disturbances such as the Proposed Action by directly removing cover and forage vegetation, automobile collisions, and displacement/disturbance from increased human activity. Although the exploration activities associated with the Proposed Action would be temporary within the CESA boundary, resources would be removed that could otherwise be utilized by wild horses.

The CESA for wild horses is 579,919 acres. Approximately 14,846 acres of disturbance is associated with past, present, and RFFAs, which accounts for approximately 2.56 percent of the CESA. The Proposed Action would increase the surface disturbance within the CESA by approximately 70.69 acres for a total of 14,916.69 acres of surface disturbance. The Proposed Action would account for an additional less than one percent increase of surface disturbance within the CESA.

Reclamation and continued monitoring, until successful establishment of vegetation species within the disturbed areas associated with the past, present, and RFFAs, would result in improved resources over time.

Cumulative effects to wild horses under the Proposed Action or alternatives in conjunction with past, present, and RFFAs would be short-term and negligible because the resources and vegetation community types used are common and widespread throughout the area. There are no areas of significant importance to wild horses such as water resources within the CESA that would cause displacement.

4.6 GENERAL WILDLIFE, RAPTORS, AND SPECIAL STATUS SPECIES

4.6.1 Wildlife CESA Boundary

The Antelope Valley Hydrographic Basin was used to analyze cumulative effects to wildlife (including general wildlife, raptors, and special status species). This hydrographic basin consists of hydrographic sub-basin Northern Part 186B and hydrographic sub-basin Southern Part 186A (Figure 7). The total area of the CESA is 255,685 acres. This CESA boundary was chosen because it incorporates the wildlife habitat within and near the project area where most of the impacts could occur from the Proposed Action.

4.6.2 Introduction

Past and present actions within this area would likely result in both beneficial and negative impacts, at various levels on general wildlife, raptors, and special status species. The foremost effect to these species within the area has been habitat changes associated with past and present mineral development and exploration activities, wildland fires, and livestock grazing. The entire CESA (255,685 acres) provides year-round habitat for general wildlife (Table 19). Additional

impacts include historic mineral development and exploration, noise disturbance/displacement from mineral development and exploration, roads, and dispersed recreation. Quantifiable acres of disturbance in the sections below are presented in Table 19.

Table 19 Cumulative Wildlife, Pronghorn, and Mule Deer Disturbance by Habitat Type

Habitat Type	Total Acres of Habitat ¹	Acres of Habitat Disturbed by Wildland Fire	Acres Disturbed by the Proposed Action	Total Acres of Habitat Disturbed by Wildland Fire and the Proposed Action
Wildlife CESA				
Year Round	255,685	385 (<1%)	70.69 (<1%)	456
Pronghorn CESA				
Crucial Winter	82,745	0	0	0
Year Round	318,020	695 (<1%)	70.69	766
Mule Deer CESA				
Crucial Winter	228,615	2,560 (1%)	0	2,560
Limited Use	379,269	27,598 (7%)	0	27,598
Movement Corridor	387	0	0	0
Summer Range	259,194	2,666 (1%)	0	2,666
Transition Range	23,079	0	0	0
Winter Range	721,018	17,554 (2%)	70.69 (<1%)	17,624
Year-Round	653,266	20,744 (3%)	0	20,744

¹Source: BLM, 2013

4.6.3 Past and Present Actions

Within the wildlife CESA, major past and present disturbances to wildlife habitat have resulted from mineral development and exploration activities, sand and gravel operations, wildland fires, utility lines, roads, dispersed recreation, and livestock grazing.

There are approximately 235 acres of surface disturbance associated with two authorized Notices and mineral exploration projects and approximately 357 acres of surface disturbance associated with sand and gravel operations within the wildlife CESA. While there are no data on the number of acres reclaimed as a result of past mineral exploration activities, state and federal regulation require reclamation; therefore, it is reasonable to assume that some areas have been reclaimed. However, there are some areas of historic mineral development that have not been reclaimed and are currently being utilized as wildlife habitat.

Mineral exploration operations and sand and gravel operations have the potential to create habitat fragmentation and degradation for wildlife species, including raptors. Fragmentation within the CESA has not been quantified by the land management agencies as quantification is difficult to ascertain. Additionally, surface disturbance results in a direct loss of forage and

cover of vegetation resources that would otherwise be utilized by wildlife. These disturbance activities also increase the likelihood of noxious and non-native, invasive species establishment, which reduces the amount of available forage vegetation. Rehabilitation efforts (including reseeded) were conducted by the BLM and NDOW and covered areas north and east of the existing Kinsley Mine, and these efforts have resulted in increased vegetation diversity within the CESA.

Approximately 385 acres of wildland fire has burned within the wildlife CESA, which is approximately 0.2 percent of the CESA (Figure 9 and Table 19). Like other surface disturbances, wildland fire removes resources that would otherwise be used by wildlife such as forage and cover. Although this disturbance is temporary, establishment of noxious and invasive weed species after wildland fire would result in poor available forage vegetation. The BLM has conducted weed eradication projects for known noxious weed species in the CESA, which has decreased the occurrence and spread of noxious weeds and improved native vegetation communities.

There are approximately 439 acres of surface disturbance associated with utility line and maintenance. Past and presents disturbances from utility line and maintenance have resulted in disruption of certain wildlife populations and their habitats including raptors. The area that has been impacted by these past and present activities would likely result in minor and temporary impacts. Fragmentation effects within the CESA have not been quantified by the land management agencies as quantification is difficult to ascertain.

There are approximately 2,998 acres of surface disturbance associated with roads within the CESA boundary. Road construction and use tends to fragment wildlife habitats and leads to increased mortalities for certain species. However, some positive impacts may be realized by those species, such as raptors and scavengers, that benefit from increased carrion (i.e., road kill) within their habitats. In general, roads lead to direct mortality from vehicle collisions. However, unpaved roads in the project area and vicinity are infrequently traveled compared to nearby highways. Additionally, speeds of vehicles on the unpaved roads in the project area and vicinity are less than compared to those on the highways. Therefore, direct impacts to wildlife are expected to be low on unpaved roads within the CSEA compared to impacts along highways located in the CESA.

Human presence tends to disturb many species of wildlife throughout their habitats. Past and present recreational uses within the wildlife CESA are difficult to quantify and include OHV use, camping, and hunting. Human disturbance during periods of the year when wildlife are otherwise stressed, due to lack of forage and/or harsh weather can further stress wildlife and may increase mortality.

Essentially, wildlife is affected by livestock grazing due to competition for forage and habitat removal/conversion in the lower elevations of the CESA. Reduction to grass understory can also impacts nesting success, predation, and wildlife regimes. Proper rotation and stocking rates can minimize impacts to wildlife. However, competition for resources with wild horses that forage in the upper elevations of the CSEA does occur.

4.6.4 Reasonably Foreseeable Future Actions

Potential impacts to wildlife include many of the same types of activities (with the same potential effects) as described in Section 4.6.3. Mineral exploration, power line construction, wind test facilities, and existing ROW maintenance are the primary proposed projects that may occur within the wildlife CESA. All of which would require surface disturbance. Fragmentation effects within the CESA have not been quantified by the land management agencies as quantification is difficult to ascertain. Removal of vegetation to construct roads results in a direct loss of vegetation that would otherwise be available for wildlife use.

Additional reasonable foreseeable future disturbances within the CESA are expected to occur from dispersed recreation, livestock grazing, mineral exploration, and existing ROWs and associated maintenance. Disturbance as a result of many of these activities is difficult to quantify due to the dispersed nature of these activities.

The amount of wildland fire that will occur within the reasonably foreseeable future within the CESA is unknown and not quantifiable.

4.6.5 Cumulative Impacts

Of the 255,685 acres covered by the wildlife CESA, 4,108 acres of disturbance are associated with past, present, and RFFAs, which is a disturbance of approximately 1.61 percent of the CESA. The Proposed Action would increase surface disturbance within the CESA by approximately 70.69 acres to a total disturbance of approximately 4,178.69 acres. This is less than a one percent increase within the CESA.

Impacts from past, present, and RFFA in conjunction with the Proposed Action to general wildlife, raptors, and special status species would result in cumulative displacement and habitat fragmentation. The Proposed Action would result in minor modification to wildlife habitat, but will incorporate wildlife protection measures and habitat restoration measures during and following operations to reduce impacts to wildlife. Based on the above analysis, incremental impacts to wildlife species as a result of the Proposed Action when added to the past and present actions and RFFAs are expected to be minimal.

4.7 PRONGHORN ANTELOPE

4.7.1 Pronghorn CESA Boundary

The pronghorn CESA boundary includes the pronghorn antelope use area (Figures 8 and 9). The total area of the pronghorn CESA is 435,680 acres. Of the 435,680 acres within the CESA 82,745 provides crucial winter habitat and 318,020 year-round habitat for pronghorn antelope (Table 19). This CESA boundary was chosen because it incorporates the range of pronghorn antelope use (Burton, 2013).

4.7.2 Introduction

Past and present actions within this area would likely result in both beneficial and negative impacts, at various levels on pronghorn antelope. The foremost effect to pronghorn antelope within the area has been habitat changes associated with past and present mineral development and exploration activities and livestock grazing. Additional impacts include historic mineral development and exploration, noise disturbance/displacement from mineral development and exploration, roads, and dispersed recreation. Quantifiable acres of disturbance in the sections below are presented in Table 18.

4.7.3 Past and Present Actions

Within the pronghorn CESA major past and present disturbances to pronghorn antelope habitat have resulted from mineral development and exploration activities, sand and gravel operations, wildland fires, utility lines, roads, dispersed recreation, and livestock grazing.

There are approximately 235 acres of surface disturbance associated with two authorized Notices and mineral exploration projects has occurred within lands classified as pronghorn antelope winter range, crucial winter range year-round habitat types as well as movement corridors. Approximately 477 acres of surface disturbance associated with sand and gravel operations within the pronghorn CESA. While there are no data on the number of acres reclaimed as a result of past mineral exploration activities, state and federal regulation require reclamation; therefore, it is reasonable to assume that some areas have been reclaimed. However, there are some areas of historic mineral development that have not been reclaimed and are currently being utilized as wildlife habitat.

Mineral exploration operations and sand and gravel operations have the potential to create habitat fragmentation and degradation for pronghorn antelope. Fragmentation within the CESA has not been quantified by the land management agencies as quantification is difficult to ascertain. Additionally, surface disturbance results in a direct loss of forage and cover of vegetation resources that would otherwise be utilized by pronghorn antelope. These disturbance activities also increase the likelihood of noxious and non-native, invasive species establishment, which reduces the amount of available forage vegetation. Rehabilitation efforts (including

reseeding) were conducted by the BLM and NDOW and covered areas north and east of the existing Kinsley Mine and these efforts have resulted in increased vegetation diversity in the CESA.

Historic fires between 1980 and 2011 have burned approximately 2,408 acres (or approximately 0.5%) of the pronghorn CESA (Figure 9). Of the 2,408 acres burned within the pronghorn CESA, 695 acres is classified as year-round habitat for pronghorn antelope. Like other surface disturbances, wildland fire removes resources that would otherwise be used by pronghorn antelope such as forage and cover. Although this disturbance is temporary, establishment of noxious and invasive weed species after wildland fire would result in poor available forage vegetation. The BLM has conducted weed eradication projects for known noxious weed species in the CESA, which has decreased the occurrence and spread of noxious weeds and improved native vegetation communities.

There are approximately 1,272 acres of surface disturbance associated with utility line and maintenance. Past and presents disturbances from utility line and maintenance have resulted in disruption of pronghorn antelope populations and their habitat. The area that has been impacted by these past and present activities would likely result in minor and temporary impacts. Fragmentation effects within the CESA have not been quantified by the land management agencies as quantification is difficult to ascertain.

There are approximately 2,998 acres of surface disturbance associated with roads within the CESA boundary. Road construction and use tends to fragment habitat and leads to increased mortalities.

Human presence tends to disturb many species of wildlife throughout their habitats, including pronghorn antelope. Past and present recreational uses within the pronghorn CESA are difficult to quantify and include OHV use, camping, and hunting. Human disturbance during periods of the year when pronghorn antelope are otherwise stressed, due to lack of forage and/or harsh weather can further stress this species and may increase mortality.

Essentially, pronghorn antelope are affected by livestock grazing due to competition for forage and habitat removal/conversion in the lower elevations of the CESA. Based on when cows are grazing in the CESA (winter and early spring), there is minimal competition with pronghorn antelope. Additionally, proper rotation and stocking rates can minimize impacts to wildlife. However, competition for resources with wild horses that forage in the upper elevations of the CESA does occur.

4.7.4 Reasonably Foreseeable Future Actions

Reasonably foreseeable future disturbances within the CESA include 7,857 acres associated to road construction. These activities may lead to displacement and habitat fragmentation for pronghorn antelope. Fragmentation effects within the CESA have not been quantified by the land management agencies as quantification is difficult to ascertain. Removal of vegetation to construct roads results in a direct loss of vegetation that would otherwise be available for pronghorn antelope use.

Additional reasonable foreseeable future disturbances within the CESA are expected to occur from dispersed recreation, livestock grazing, mineral exploration, and existing ROWs and associated maintenance. Disturbance as a result of many of these activities is difficult to quantify due to the dispersed nature of these activities.

The amount of wildland fire that will occur within the reasonably foreseeable future within the CESA is unknown and not quantifiable.

4.7.5 Cumulative Impacts

Of the 435,680 acres covered by the pronghorn CESA, 13,477 acres of disturbance are associated with past, present, and RFFAs, which is a disturbance of approximately 3.09 percent of the CESA. The Proposed Action would increase surface disturbance within the CESA by approximately 70.69 acres to a total disturbance of approximately 13,547.69 acres. This is less than a one percent increase within the CESA.

Impacts from past, present, and RFFA in conjunction with the Proposed Action to pronghorn antelope would result in cumulative displacement and habitat fragmentation. The Proposed Action would result in minor modification to pronghorn antelope habitat, but will incorporate wildlife protection measures and habitat restoration measures during and following operations to reduce impacts to this species. Based on the above analysis, incremental impacts to pronghorn antelope as a result of the Proposed Action when added to the past and present actions and RFFAs are expected to be minimal.

4.8 MULE DEER

4.8.1 Mule Deer CESA Boundary

The CESA boundary for mule deer includes NDOW Management Area 10 which includes Hunt Units 101 through 108 (Figures 8 and 9). The total area of the mule deer CESA is approximately 4,213,340 acres. Table 19 lists total acres of habitat type based on mule deer use.

This CESA boundary was chosen because it includes the project area and boundary where observations of movement patterns, telemetry, and other marking studies have identified mule deer traveling (BLM, 2011).

4.8.2 Introduction

Cumulative effects to mule deer in the CESA primarily occur from livestock grazing, range improvements including fence construction, utility lines, mining and exploration, road construction and maintenance, sand and gravel extraction, dispersed recreation, and wildland fires. Quantifiable acres of disturbance in the sections below are presented in Table 18.

These surface disturbance activities often modify landscapes and remove vegetation resources that would otherwise be available for mule deer use. These disturbance activities also increase the likelihood of noxious and non-native, invasive species establishment which reduces the amount of available forage vegetation. There are no specific data that quantify habitat loss from livestock grazing or recreation; however, there are over 75 BLM-administered grazing allotments that are within or overlie the mule deer CESA. Construction of ROWs and fences have the potential to impact wildlife habitat through habitat fragmentation. Surface disturbance has increased the likelihood of noxious and non-native, invasive species establishment, which reduces the amount of available forage vegetation.

4.8.3 Past and Present Actions

Within the CESA boundary, major past and present disturbances to mule deer habitat has resulted from communication and power lines, road construction, sand and gravel material sites, mineral exploration and mining operations, railroad, range improvements, water and irrigation facilities, and recreation. Approximately 81,948 acres have burned within the CESA, of which approximately 71,122 acres consist of several mule deer habitat types, since 1983 with the majority occurring between 2000 and 2008 (Figure 9 and Table 19). Without reclamation, wildland fire increases the risk of noxious, invasive, and non-native weed species establishment, which reduces the amount of available forage. The BLM has conducted weed eradication projects for known noxious weed species in the CESA, which has decreased the occurrence and spread of noxious weeds and improved native vegetation communities. Rehabilitation efforts (including reseeding) were conducted by the BLM and NDOW covered areas north and east of the existing Kinsley Mine and these efforts have resulted in increased vegetation diversity in the CESA.

Approximately 20,298 acres of surface disturbance associated with communication and power lines and approximately 3,340 acres associated with railroads has occurred within the mule deer CESA. While there are no specific data that quantify impacts from linear disturbances, these types of activities would impact habitat and/or disrupt the movement of mule deer.

Approximately 18,774 acres of surface disturbance associated with past and present roads has occurred within the mule deer CESA. Increased road construction and an increased number of travelers on existing roads can lead to an increased risk of habitat fragmentation and vehicular collisions with mule deer. Increased human disturbance also increases likelihood of mule deer population displacement. Roads provide human access to areas that would have been otherwise difficult to access. Noise and increased human activity has the potential to displace herds onto adjacent lands. However, unpaved roads in the project area and vicinity are infrequently traveled compared to nearby highways. Additionally, speeds of vehicles on the unpaved roads in the project area and vicinity are less than compared to those on the highways. Therefore, direct and indirect impacts to mule deer are expected to be low on unpaved roads within the CSEA compared to impacts along highways located in the CESA.

Approximately 16,259 acres associated with past and present sand and gravel operations, approximately 11,876 acres associated with past and present mineral development, and approximately 607 acres of disturbance associated with water and irrigation facilities has occurred within the mule deer CESA. Past and present mineral development has occurred on lands classified as summer range, winter range, crucial summer, crucial winter, limited use, transition range, year-round mule deer habitat types as well as movement corridors. These disturbance activities have the potential to result in habitat fragmentation of mule deer populations.

All surface disturbance within the CESA directly removes vegetation from lands that could be used as cover and forage for mule deer use. Vegetation clearing activities increase the likelihood of spreading noxious and non-native, invasive species. These species can further reduce the amount of usable range and available forage for mule deer use.

Approximately 644 acres of disturbance associated with range improvements has occurred within the mule deer CESA. In general, mule deer are affected by livestock grazing due to competition for forage and habitat conversion/removal. Based on when cows are grazing in the CESA (winter and early spring), there is minimal competition with mule deer. However, competition for resources with wild horses that forage in the upper elevations of the CESA does occur. Direct impacts of livestock grazing on mule deer are difficult to quantify. Reduction to grass understory can impact available forage and wildland fire regimes.

Human disturbance has the ability to disrupt many wildlife species such as mule deer throughout their habitats. Areas of heavy human concentration within the mule deer CESA include towns such as Elko, Wells, and Wendover. Past and present recreational uses in the CESA include hunting, wildlife viewing, OHV use, camping, picnicking, and hiking. Human disturbance during periods of the year when wildlife are otherwise stressed due to lack of forage and/or harsh

weather (hot summers and snowy winters), can further stress wildlife and may increase mortality.

The Humboldt National Forest is located within the mule deer CESA boundary. This National Forest includes the Ruby Mountains which provides year round recreational opportunities such as snowmobiling, back country skiing, horseback riding, hunting, fishing, rock climbing, and hiking. Approximately 476 acres of disturbance associated with recreation has occurred within the mule deer CESA. Recreation is mostly dispersed throughout the Ruby Mountains; however, there are established recreation facilities at Ruby Lake National Wildlife Refuge, Lamoille Canyon, and Angel Lake. Other surface disturbances include trail maintenance and informational kiosks. As with other disturbances within the CESA, recreation has the ability to displace mule deer herds through increased noise and human activity.

While there are no specific data that quantify impacts from activities associated with dispersed recreation, these types of activities would impact habitat and/or disrupt the movement of mule deer.

4.8.4 Reasonably Foreseeable Future Actions

Foreseeable future disturbances within the CESA include approximately 57 acres associated with sand and gravel material sites, 25,320 acres associated with mineral exploration and mining operations, 175 acres associated with power lines, 707 acres associated with recreation, 6,607 acres associated with roads, and one acre associated with water and irrigation facilities. Effects of these disturbances are similar to those for past and present actions.

Additional reasonable foreseeable future disturbances within the CESA are expected to occur from dispersed recreation, livestock grazing, mineral exploration, and existing ROWs and associated maintenance. Disturbance as a result of many of these activities is difficult to quantify due to the dispersed nature of these activities.

The amount of wildland fire that will occur within the reasonably foreseeable future within the CESA is unknown and not quantifiable.

4.8.5 Cumulative Impacts

Resources associated with mule deer can be affected by mineral exploration projects such as the Proposed Action by directly removing cover and forage vegetation, automobile collisions, and displacement/disturbance from increased human activity. Although the exploration activities associated with the Proposed Action would be temporary within the CESA boundary, resources would be removed that could otherwise be utilized by mule deer.

The CESA for mule deer is 4,213,340 acres. Approximately 105,141 acres of disturbance is associated with past, present, and RFFAs, which accounts for approximately 2.50 percent of the CESA. The Proposed Action would increase the surface disturbance within the CESA by approximately 70.69 acres for a total of 105,211.69 acres of surface disturbance. The Proposed Action would account for a less than one percent increase of surface disturbance within the CESA.

Reclamation and continued monitoring until successful establishment of vegetation species within the disturbed areas associated with the past, present, and RFFAs would result in improved mule deer habitat over time. Mule deer that are found within the CESA would likely utilize forage and cover throughout the remainder of undisturbed lands within the CESA.

Cumulative effects to mule deer under the Proposed Action or alternatives in conjunction with past, present, and RFFAs would be short-term and negligible because the resources and vegetation community types used are common and widespread throughout the area. There are no areas of significant importance to mule deer such as water resources within the CESA that mule deer would be displaced from. Mule deer displacement would be temporary, and vegetation resources would be restored after reclamation.

4.9 NO ACTION ALTERNATIVE CUMULATIVE IMPACT ANALYSIS

Potential impacts to resources as a result of the No Action Alternative were analyzed in Chapter 3 of this EA. Based on the Chapter 3 impacts analysis, there would be no cumulative impacts as a result of the No Action Alternative when added to the past action, present actions, and RFFAs.

5.0 MITIGATION AND MONITORING

5.1 MITIGATION

The Proposed Action includes applicant-proposed EPMs (Section 2.2.13) that adequately protect environmental resources considered in this EA. Therefore, no mitigation measures are proposed. However, monitoring for cultural resources, soils and water quality, and vegetation are presented below.

5.2 MONITORING

The BLM would conduct monitoring of the Proposed Action to assess whether the EPMs outlined in Section 2.2.13 are being followed. For example, monitoring could confirm that non-native invasive and noxious weeds are not becoming established or that cultural resources are not being impacted by the Proposed Action.

5.2.1 Cultural Resources

If the BLM determines that an eligible cultural site is within 100 meters of proposed surface disturbing activities, an archaeological monitor (approved by the BLM and funded by Pilot Gold) would be called to the site. An archaeological monitor, funded by Pilot Gold, could be required during active construction at historic properties located within close proximity to ground-disturbing activities. The BLM would make determinations regarding monitoring needs on a case-by-case basis. The BLM could require periodic monitoring of historic properties within the project boundary by a Pilot Gold-funded archaeologist. The BLM would determine the need and frequency of monitoring based on condition of the resources and the nature of ongoing activities within the project area in coordination with Pilot Gold.

5.2.2 Soils and Water Quality

During exploration activities, monitoring would involve management of drilling procedures to contain cuttings, monitoring road conditions during periods of inclement weather, monitoring of the sediment control measures to ensure they are functioning properly.

5.2.3 Migratory Birds

During project activities, a biologist would monitor the golden eagle nest that is located approximately 1.5 miles north of the project area to determine if there are any impacts. The biologist would coordinate with the BLM wildlife biologist, NDOW, and USFWS on the methodology and frequency of the nest monitoring prior to commencement of surface disturbance within or near the project area.

5.2.4 Vegetation

5.2.4.1 Vegetation Transects

Pilot Gold would coordinate with the BLM to perform annual vegetation transects at the seven revegetation transect locations established within the reclamation area as discussed in the Revegetation Transect Report (Appendix A). Pilot Gold would establish three new vegetation transects within the three natural vegetation communities in the project area in areas that would not be disturbed by project-related activities and monitor those transects annually.

5.2.4.2 Reclamation

Annual surveys would be conducted to monitor the success of the revegetation. The proposed reclamation is expected to have a duration of up to four years from the time of commencement of final reclamation and would be initiated within one year after the completion of exploration activities. Revegetation is anticipated to take three years after the time of seeding to achieve success. Erosion control structures such as waterbars would be monitored in the spring and fall. In addition, annual monitoring would be performed for noxious weeds.

6.0 CONSULTATION AND COORDINATION

This EA was prepared by JBR under the technical direction of the BLM Wells Field Office, Elko, Nevada. Assistance was provided by BLM resource specialists (meetings and subsequent conversations); consultation with other local, state, and federal agency resource personnel; review of company and agency files; field reconnaissance; and review of supporting documentation.

6.1 LIST OF PREPARERS AND REVIEWERS

Bureau of Land Management, Wells Field Office

Victoria Anne	Project Lead, Environmental Justice, Social Values and Economics, Land Use Plan
Nycole Burton	Wildlife, Special Status Species, Migratory Birds
Mark Dean	Air Quality, Floodplains, Native American Religious Concerns, Water Quality (Surface and Ground), Soils
Bryan Fuell	Native American Religious Concerns
JoeyJames Giustino	Lands, Realty, Access
Bryan Mulligan	Invasive Non-Native Species and Noxious Weeds
Matt Murphy	Forestry and Woodlands
Blaine Potts	Recreation, Visual Resources
Julie Rodman	Cultural Resources
Bruce Thompson	Range Resources, Wild Horses, Vegetation
Whitney Wirthlin	Waste (Hazardous/Solid), Geology and Minerals, Human Health and Safety

JBR Environmental Consultants, Inc.

Kat Bartle	Geographic Information System
Terri Covert	Environmental Analyst
Dulcy Engelmeier	Administrative Assistant
Colleen Lavery	NEPA Specialist
Michele Lefebvre	NEPA Specialist
Kyle Tate	Environmental Analyst
Larry Young	Environmental Specialist

Mesa Field Services

Sean Simpson	Archaeologist
--------------	---------------

Pilot Gold (USA) Inc.

Gerald Heston	Geographical Information System / Environmental Coordinator
Kent Samuelson	Regional Geologist / Project Manager
Vance Spalding	President

6.2 PERSONS, GROUPS, OR AGENCIES CONSULTED

The following persons, groups, and agencies were contacted during the preparation of this document.

Nevada Department of Wildlife

Timothy Herrick	Conservation Aide
Rory Lamp	Wildlife Biologist
Lindsey Lesmeister	Wildlife Biologist
Caleb McAdoo	Wildlife Biologist

Nevada Natural Heritage Program

Eric Miskow	Biologist
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United States Fish and Wildlife Service

Steve Abele	Wildlife Biologist
Edward Koch	State Supervisor

Tribes

Battle Mountain Band Council
Confederate Tribes of the Goshute Indian Reservation
Duckwater Shoshone Tribe
Elko Band Council
Ely Shoshone Tribe
Shoshone Paiute Tribes of the Duck Valley Indian Reservation
South Fork Band Council
Superintendent Joe McDade of Bureau of Indian Affairs
Te-Moak Tribe of Western Shoshone
Wells Band Council
Western Shoshone Committee
Western Shoshone Defense Project
Western Shoshone Descendents of Big Smoky
Yomba Shoshone Tribe

State Historic Preservation Office

Rebecca Palmer Acting State Historic Preservation Officer

6.3 PUBLIC NOTICE AND AVAILABILITY

The BLM Wells Field Office distributed to resource specialists an initial internal scoping document dated September 11, 2012, to determine resources that may be affected by the Proposed Action. Copies of this EA can be obtained at the BLM Wells Field Office.

The Plan was made available to the public on December 4, 2012, and comments were requested by December 19, 2012. The EA will be available on the Elko District public webpage (www.blm.gov/nv) for public review and comment for 30 days prior to issuance of a decision concerning the Proposed Action.

7.0 REFERENCES

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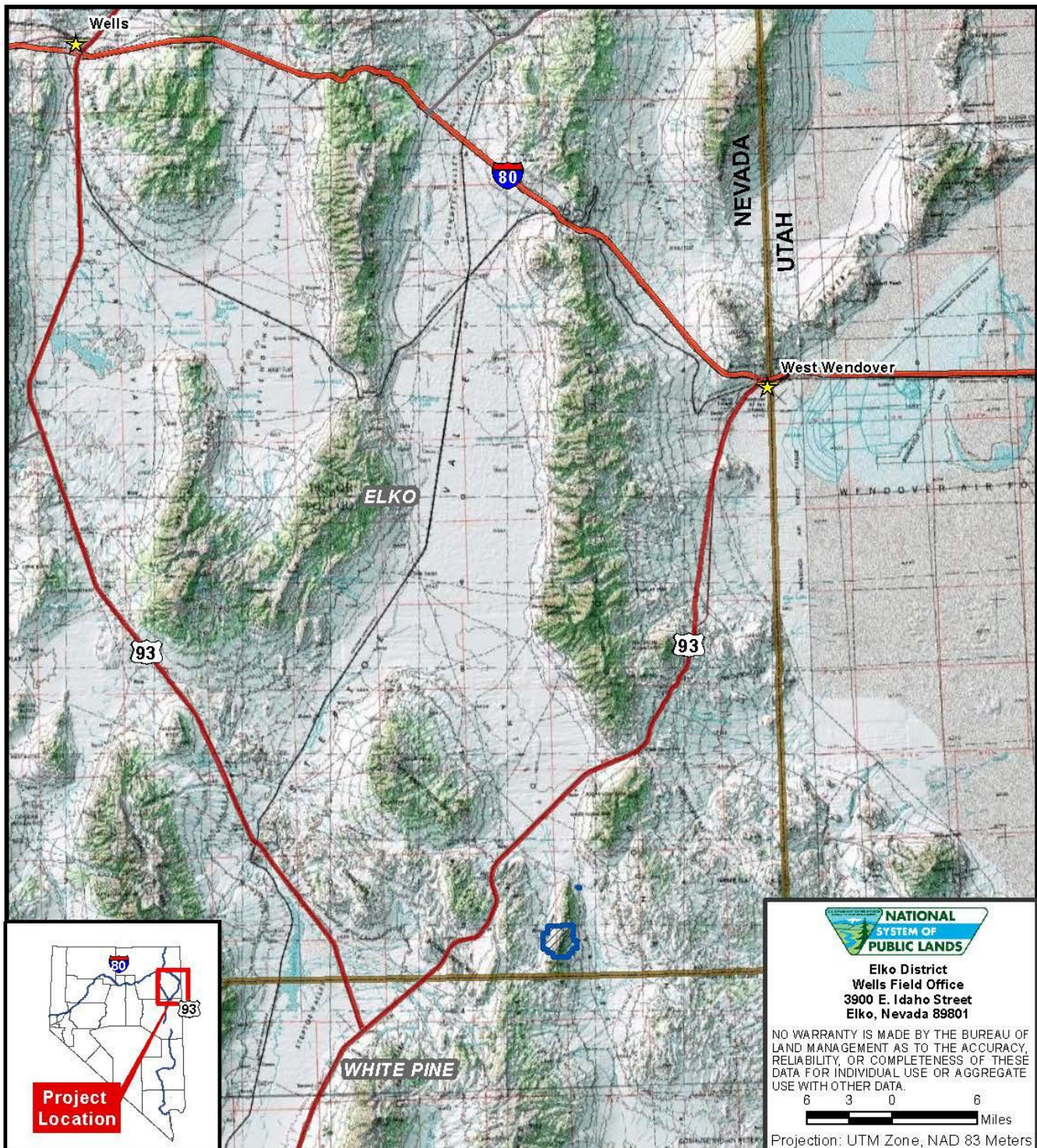
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FIGURES



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 Project Site



BUREAU OF LAND MANAGEMENT

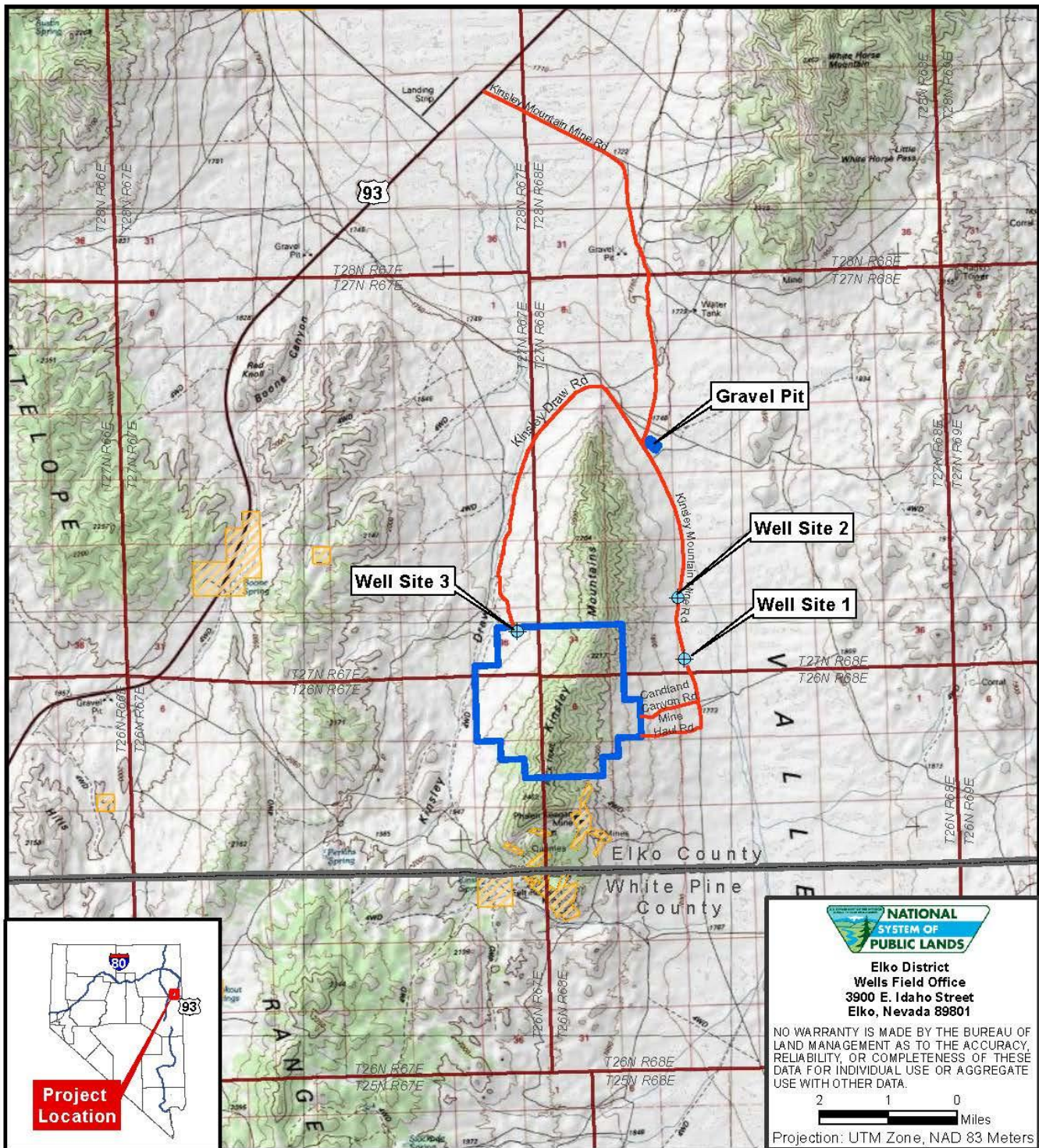
KINSLEY EXPLORATION PROJECT

**FIGURE 1
GENERAL LOCATION**

DATE
DRAWN 2/6/2013

SCALE
1 in = 10 miles

DRAWN
BY CHJ/CV/KHB



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- Project Areas - 2,840 acres**
- Right-of-Way Roads**
- Well Site**
- Land Status**
- BLM
- Private

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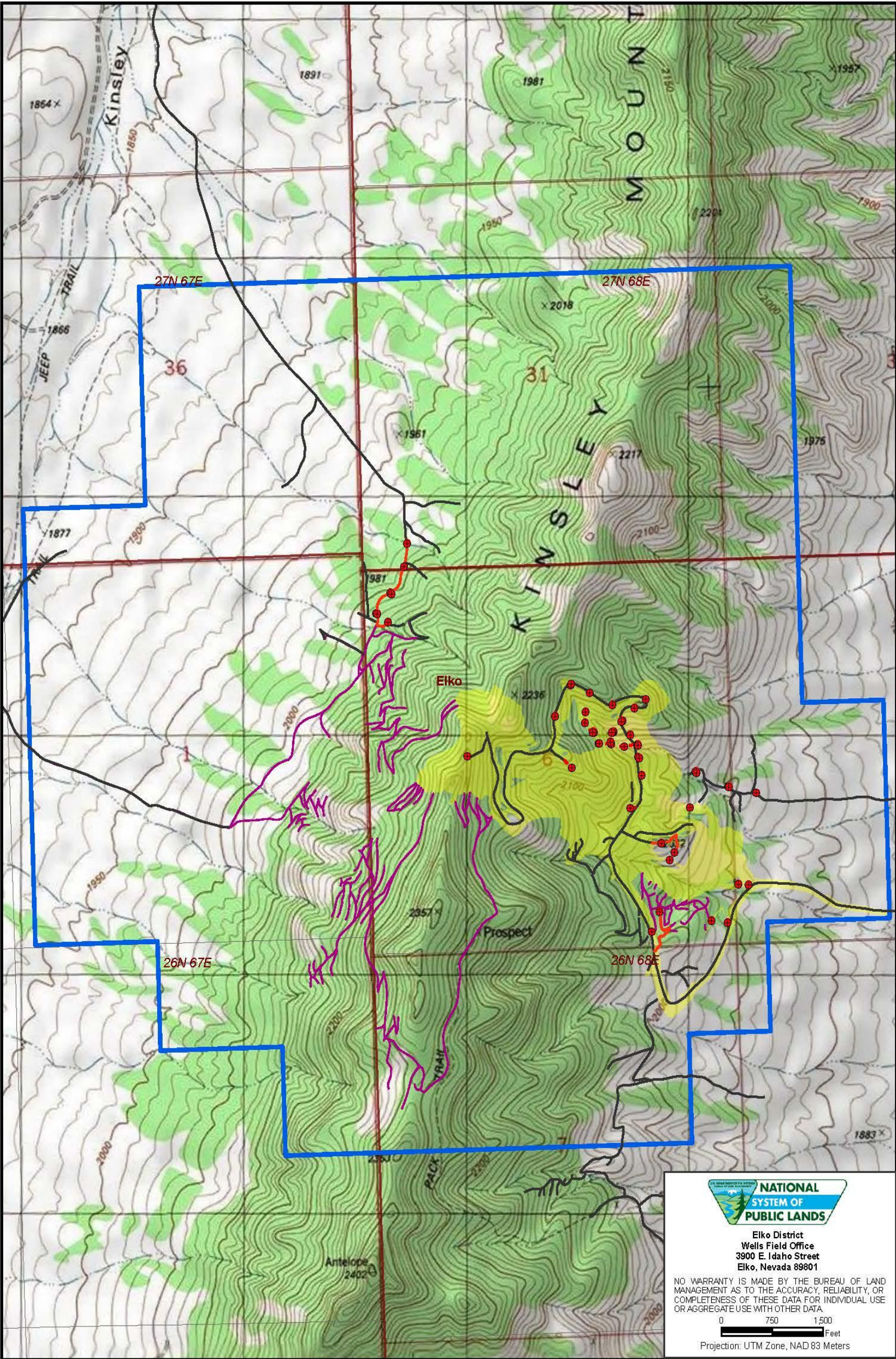
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FIGURE 2
PROJECT AREA

DATE
DRAWN 2/8/2013

SCALE
1 in = 2 miles

DRAWN
BY CHJ/CV/KHB



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0 750 1,500
Feet

Projection: UTM Zone, NAD 83 Meters

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Project Area - 2,840 acres



Past Mine Disturbance



NOI Sites

Roads

Reclaimed Exploration Road

Existing Road

NOI, New Construction

NOI, Overland Travel

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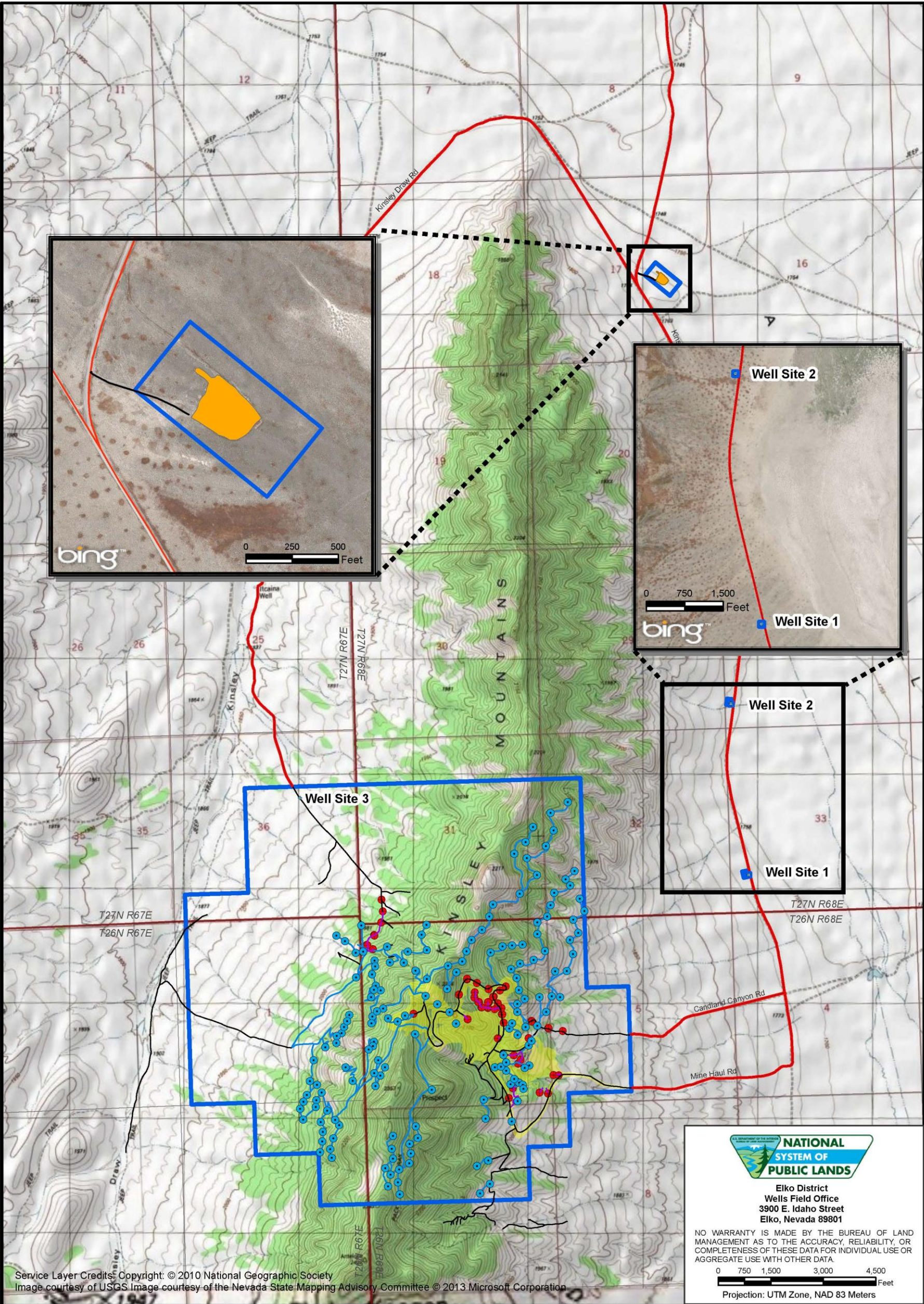
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FIGURE 3
EXISTING SURFACE DISTURBANCE

DATE
DRAWN
2/7/2013

SCALE
1 in = 0.25 miles

DRAWN
BY
CHJKHB



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0 750 1,500 3,000 4,500
Feet
Projection: UTM Zone, NAD 83 Meters

- Project Area - 2,840 acres
- Historic Mine Footprint
- Gravel Pit
- Proposed Drill Sites
- NOI Sites

- Roads**
- Existing Dirt Road
 - NOI, New Construction
 - NOI, New Overland Travel
 - NOI, Not Built
 - Proposed, New Construction
 - Right-of-Way Roads



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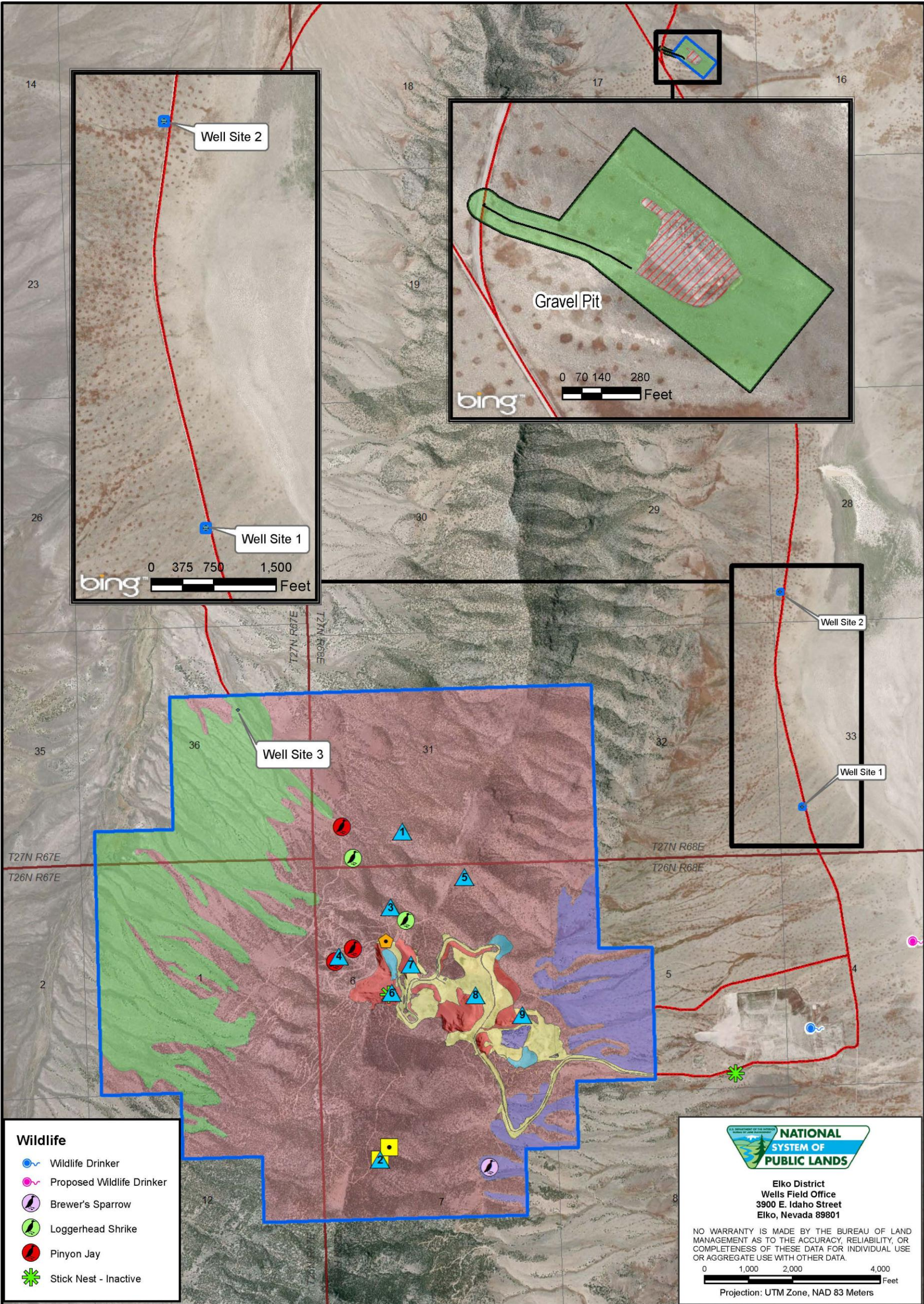
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FIGURE 4
PROPOSED ACTION

DATE
DRAWN
2/19/2013

SCALE
1 in = 0.5 miles

DRAWN
BY
CHJ/JCV/KHB



Basemap: Image courtesy of USGS Image courtesy of the Nevada State Mapping Advisory Committee © 2013 Microsoft Corporation

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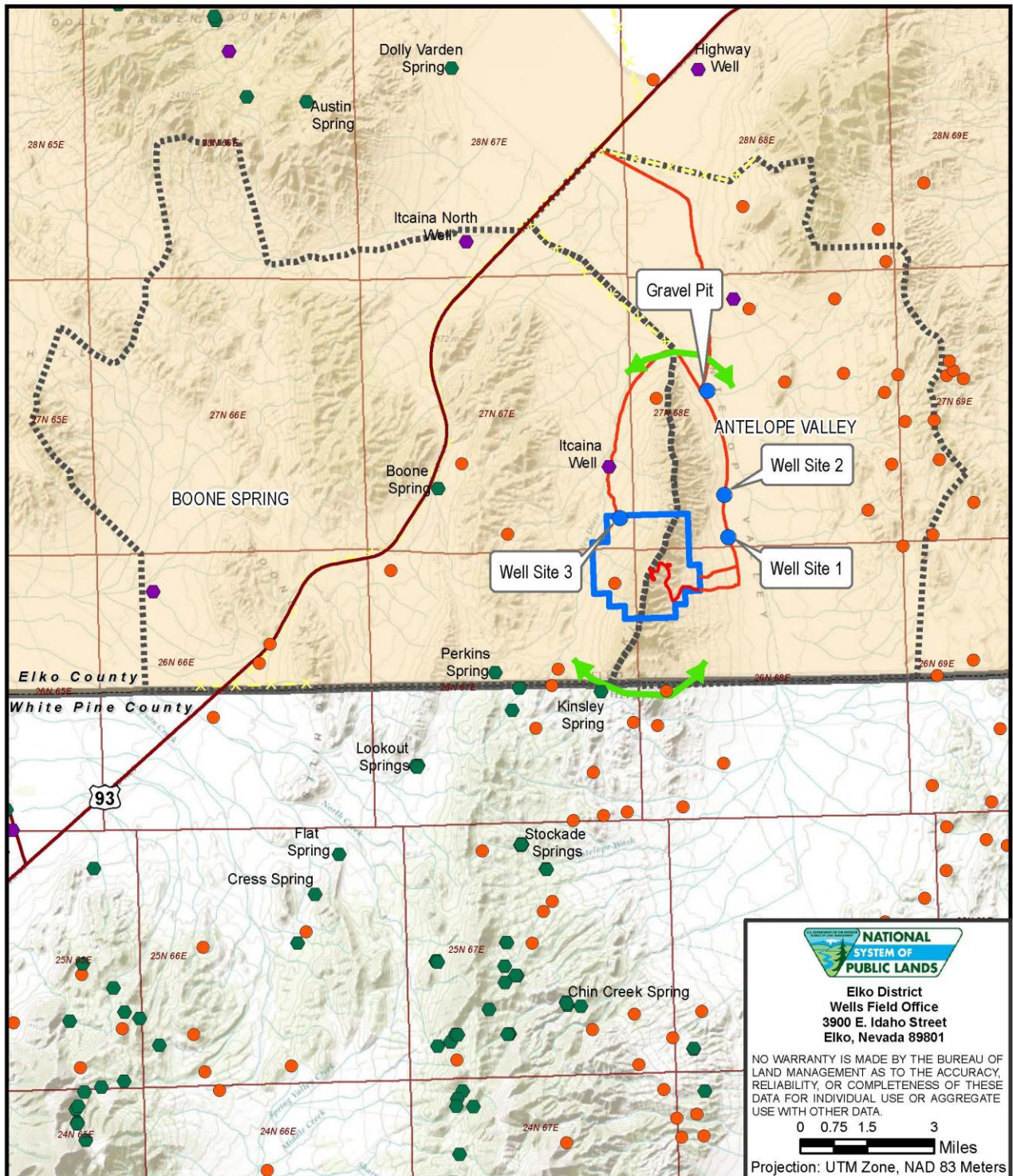
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FIGURE 5
VEGETATION COMMUNITIES AND WILDLIFE

DATE
DRAWN
4/22/2013

SCALE
1 in = 0.4 miles

DRAWN
BY
KHB



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- Project Area - 2,840 acres
- Nevada_Roads_Major_IMS
- KM_ROW_Roads
- Antelope Valley HMA
- ↔ Wild Horse Movement
- Grazing Allotments
- x Fences
- Waypoint
- Seeps and Springs
- Well

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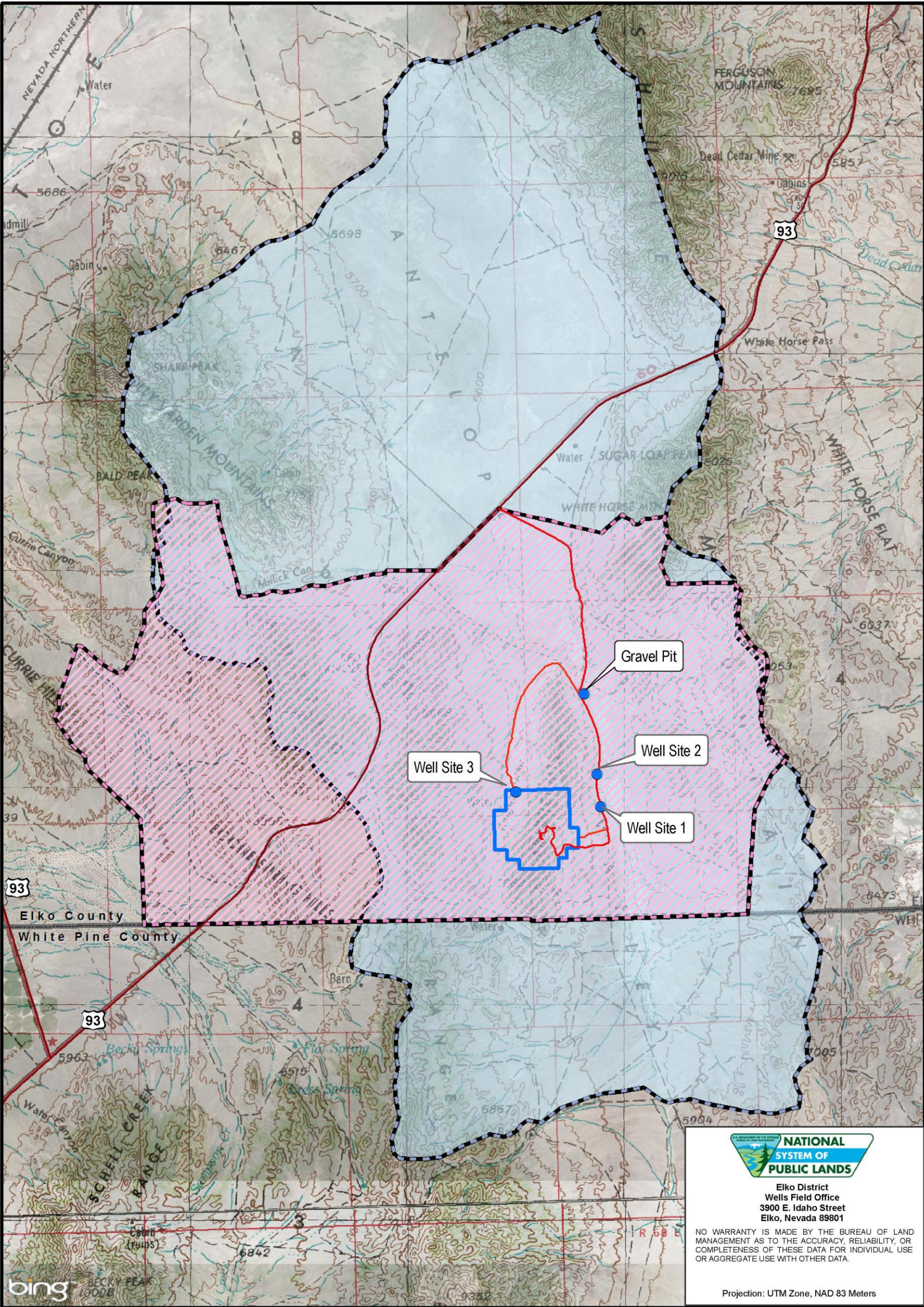
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FIGURE 6 WILD HORSE INVENTORY

DATE
DRAWN 3/21/2013

SCALE
1 in = 3 miles

DRAWN
BY KHB



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-  Project Area and Soils CESA - 2,840 acres
-  Access and Right-of-Way Roads
-  Range Resources CESA - 123,452 acres
-  Water Resources and Wildlife CESA - 255,685 acres

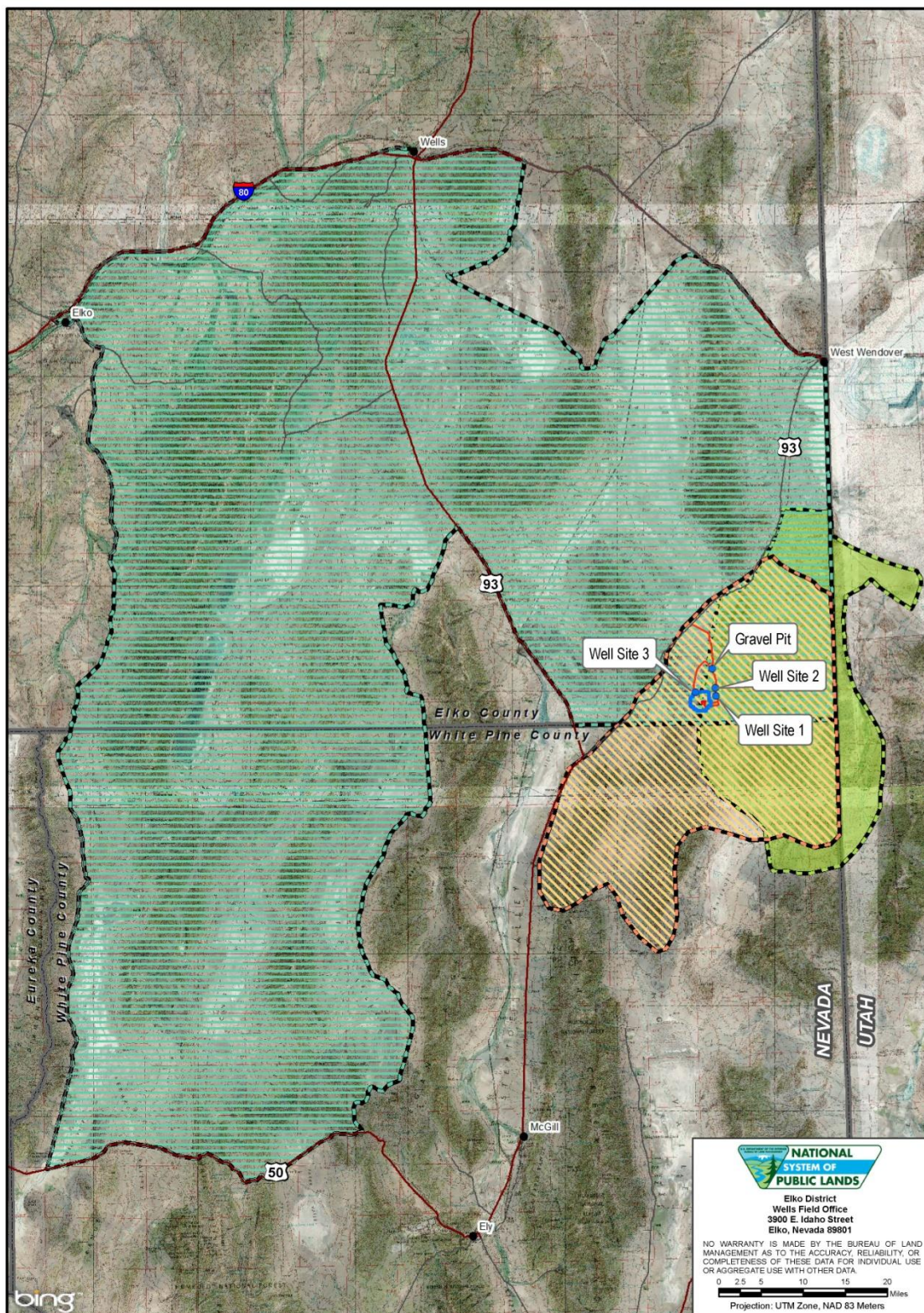


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KINSLEY EXPLORATION PROJECT

FIGURE 7
SOILS, RANGE, WATER AND
BIOLOGY CESAS

DATE DRAWN	SCALE	DRAWN BY
3/21/2013	1 in = 2.64 miles	CHJ/KHB



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- Project Area and Soils CESA- 2,840 acres
- Access and Right-of-Way Roads
- Pronghorn CESA - 435,680 acres
- Mule Deer CESA - 4,213,340 acres
- Wild Horse CESA - 579,919 acres

N

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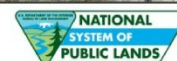
KINSLEY EXPLORATION PROJECT

FIGURE 8
SOILS, PRONGHORN, MULE DEER, AND
WILD HORSE CESAS

DATE
DRAWN 3/21/2013

SCALE
1 in = 11 miles

DRAWN
BY CHJ048

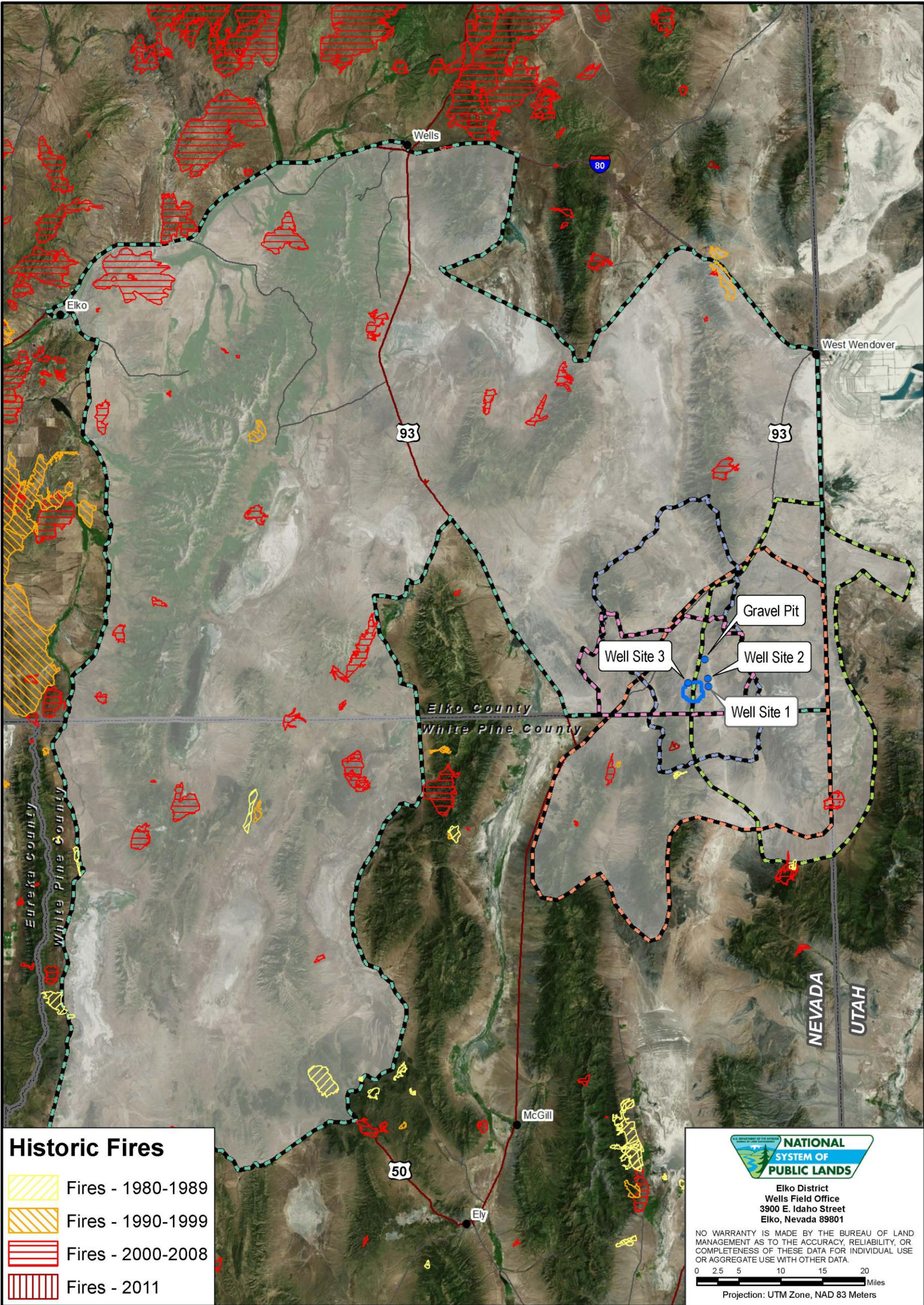


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0 2.5 5 10 15 20
Miles

Projection: UTM Zone, NAD 83 Meters




Historic Fires

- Fires - 1980-1989
- Fires - 1990-1999
- Fires - 2000-2008
- Fires - 2011

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- Project Area and Soils CESA - 2,840 acres
- Mule Deer CESA - 4,213,340 acres
- Pronghorn CESA - 435,680 acres
- Range Resources CESA - 123,452 acres
- Water Resources and Wildlife CESA - 255,685 acres
- Wild Horse CESA - 579,919 acres



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0 2.5 5 10 15 20 Miles

Projection: UTM Zone, NAD 83 Meters

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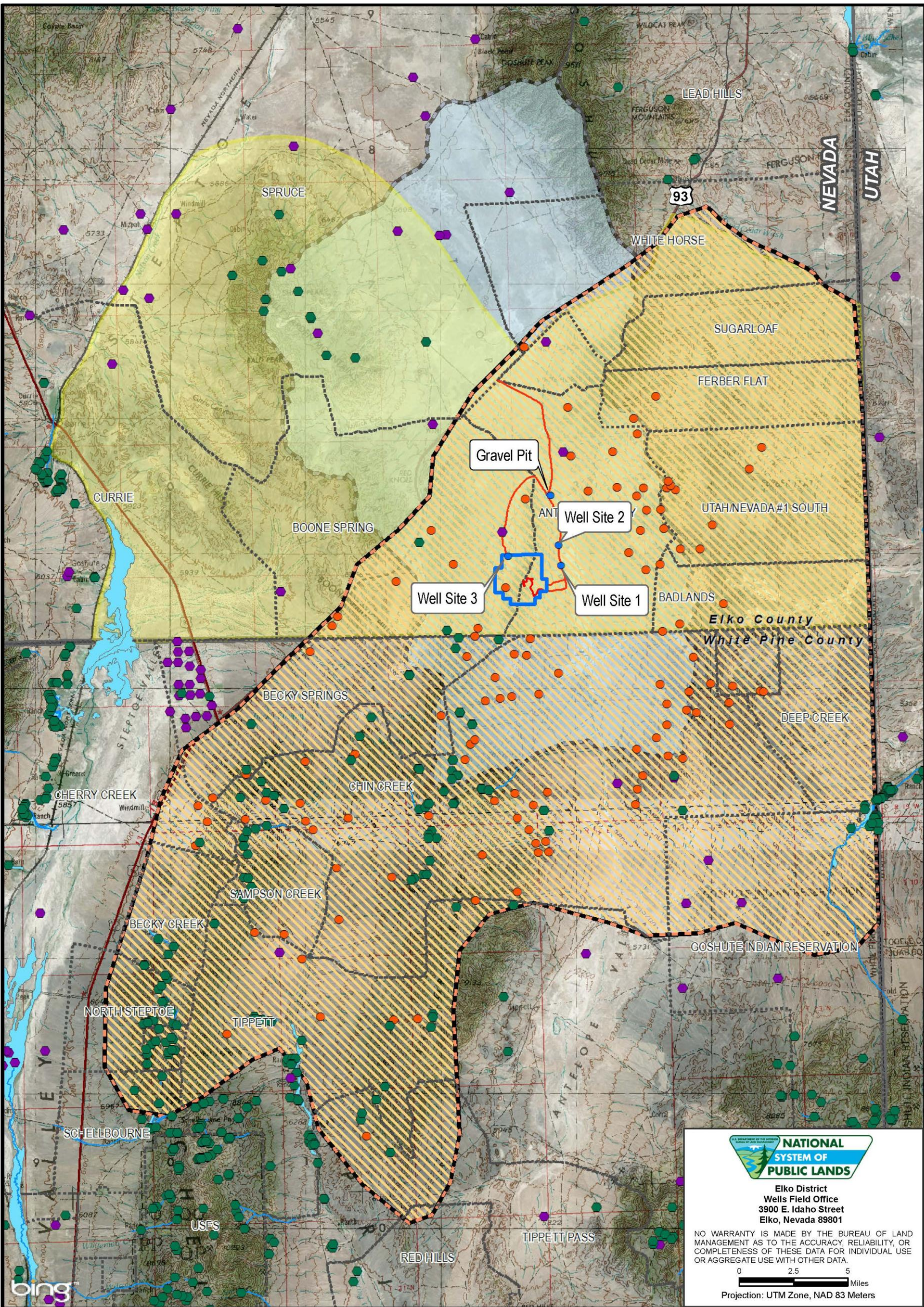
KINSLEY EXPLORATION PROJECT

FIGURE 9
CESAS AND HISTORIC FIRES

DATE
DRAWN 3/21/2013

SCALE
1 in = 11 miles

DRAWN
BY CHJ/KHB



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- Project Area and Soils CESA - 2,840 acres
- Access and Right-of-Way Roads
- Wild Horse CESA - 579,919 acres
- Antelope Valley HMA
- Grazing Allotments
- Water Resources and Wildlife CESA - 255,685 acres
- Wetlands
- Perennial Stream
- Waypoint
- Spring/Seep
- Well

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KINSLEY EXPLORATION PROJECT

FIGURE 10
WILD HORSE DATA FOR
CUMULATIVE ANALYSIS

DATE DRAWN	3/21/2013	SCALE	1 in = 4 miles	DRAWN BY	CHJ/KHB
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APPENDIX A

Revegetation Survey Report

APPENDIX B

Noxious Weed Management Plan

APPENDIX C

Safety Orientation Check In

APPENDIX D

Special Status Species with Potential to Occur at the Kinsley Exploration Project

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